AUGUST • 1958

FIREMEN

VOLUME 25, NUMBER 8, COPYRIGHT 1958 NATIONAL FIRE PROTECTION ASSOCIATION PRINTED IN U. S. A.

Fire in Empty Foundry, Bangor, Maine — *see page 7*

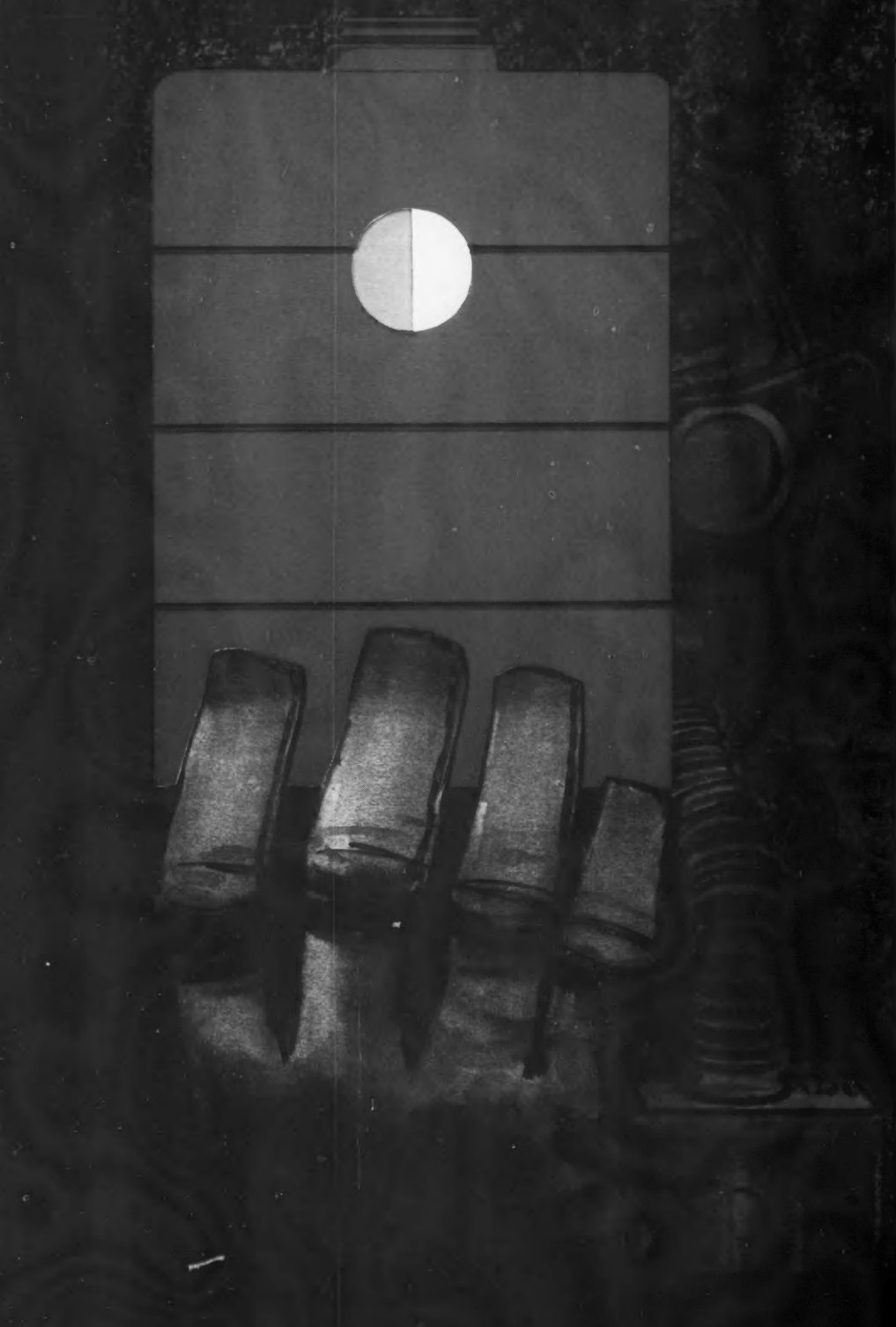
IONAL FIRE
TECTION
OCIATION

63rd
year

SEATTLE DELIVERS A WALLOP! › › › Page 8

LIGHTWEIGHT LIFE GUN › › › › › › Page 13

New Window Concept in Gas Mask* Canisters provides reliable visual signal that shows when the canister is spent



*Type N gas masks equipped with *Window Indicator* canisters have U.S. Bureau of Mines Approval, Schedule 14. These masks also are referred to and identified as All-Purpose — All-Service — Protexall — Smoke-Eater — and Universal.

New materials and new techniques are placing greater demands on emergency equipment in fire fighting and industry. So gas masks today have to be more dependable than ever.

In step with these greater demands is this new concept in gas mask canisters — the *Window Indicator*. It gives an accurate visual signal that shows when to change canisters; therefore the device is a valuable safety aid when masks are in storage or at the ready, awaiting use.

Here's how it works. One half of the window contains a reference color; the other half contains an indicating color. When both colors match up, the service life of the canister for protection against *carbon monoxide* is spent.

This *Window Indicator* development is the result of a joint undertaking by the Gas Mask Group of the I.S.E.A.

INDUSTRIAL SAFETY EQUIPMENT ASSOCIATION

Gas Mask and Hose Masks Group
Acme Protection Equipment Company
E. D. Bullard Company
Davis Emergency Equipment Company
Mine Safety Appliances Company
Willson Products Division

A "SURE-FIRE CURE"

that pays off in 3 situations—

AMERICAN FIRE PUMP Model 3XD

1 **CALL REPORT**—GRASS AND BRUSH FIRE
Snuffed out by driving around perimeter of fire with man on rear step operating 3XD from pumper tank. Fighting fire "on the move" saves time—conserves water.

2 **CALL REPORT**—FARM BUILDINGS
Saved barn with water drawn from stream the pumper couldn't reach. Used 3XD as booster to pumper.

3 **CALL REPORT**—RESIDENCE
Fire confined to one wing. Left 3XD to pump out basement and a good thing—had another call on arrival at station.

IF YOU GET a lot of calls like these, you'll find the 3XD Auxiliary Pump one of the most useful, valuable pieces of equipment money can buy.

FOR 3 COMMON types of fires, the 3XD will "speed the cure" by adding extra mobility, capacity and versatility to your operation — and at low cost.

FOR DETAILS, WRITE FOR 3XD BULLETIN 8120

Used as mobile pump, booster, or to pump out basements. Supplies two 1½" hose lines with ½" nozzles, or one 2½" line with ¾" nozzle. Handles dirty water without serious damage.

★ AMERICAN ★
FIRE PUMP COMPANY

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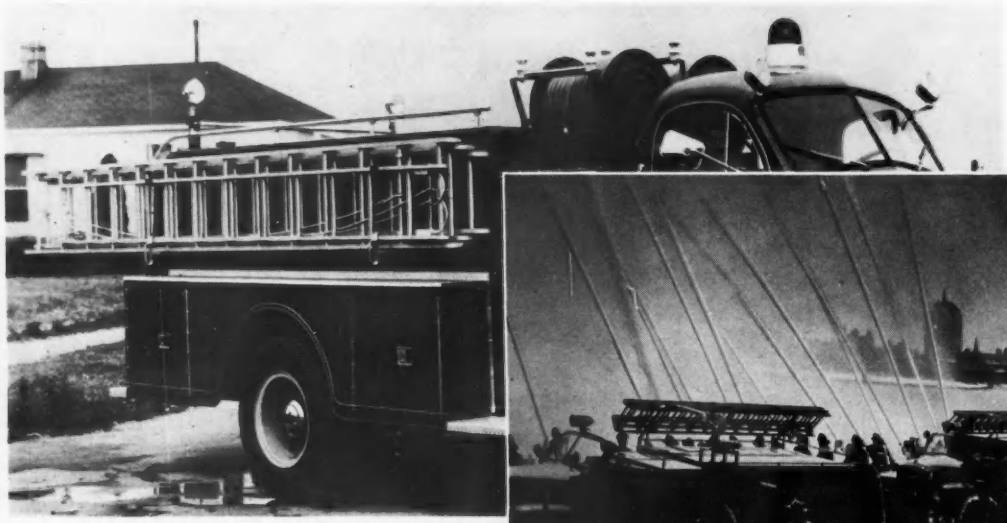
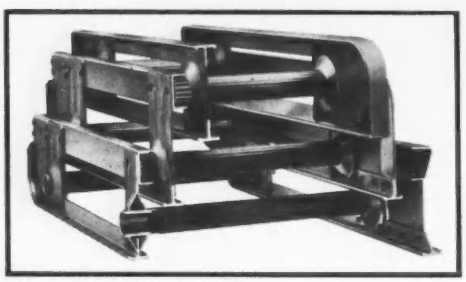
These versatile Pumpers are equipped with lightweight Alco-Lite Ground Ladders

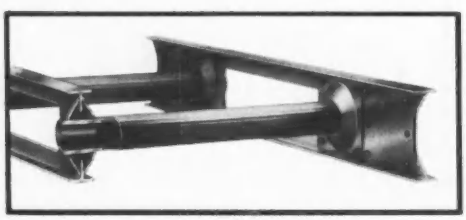


The Pumpers shown are products of Mack Trucks, Inc., Sidney, Ohio



Operate Automatically

Ladder sections extend — lock and unlock simultaneously. Spring loaded locks operate automatically. Channel slides the entire length of the ladder keep sections from becoming disengaged.



Permanent Rung-to-Rail Construction

Exclusive expansion bushing, rung to rail construction prevents rungs from twisting, turning, or breaking off.

They're lighter, easier to handle

The Alco-Lite Aluminum Ladders on the Mack Pumpers above feature open side rail, T-Channel design. All excess weight adding bulk is eliminated. Only exclusive, Alco-Lite double gusset plate, expansion bushing construction makes this trim, modern design possible. These ladders more than meet any accepted tests for strength and safety.

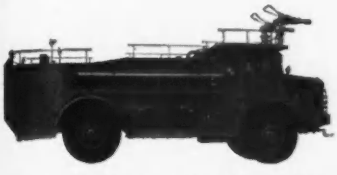
Maintenance is almost negligible with Alco-Lite Aluminum Ladders. They are not affected by water, moisture, fumes or gases. They will not warp, rot, splinter, or burn.

Because they are lightweight and trim, Alco-Lite Aluminum Ladders are easier to handle and easier to lift. They save precious minutes and require less physical effort when used at fires.

When you want easy to handle, safe, and almost maintenance free fire ladders, specify Alco-Lite Aluminum Ladders.

Aluminum Ladder Company ALCO-LITE

WORTHINGTON PENNSYLVANIA



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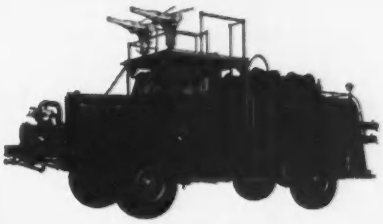

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FAIRCHILD AIRCRAFT CORP.

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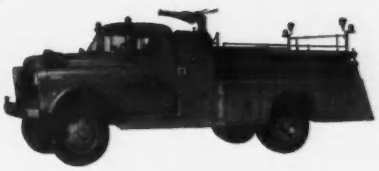

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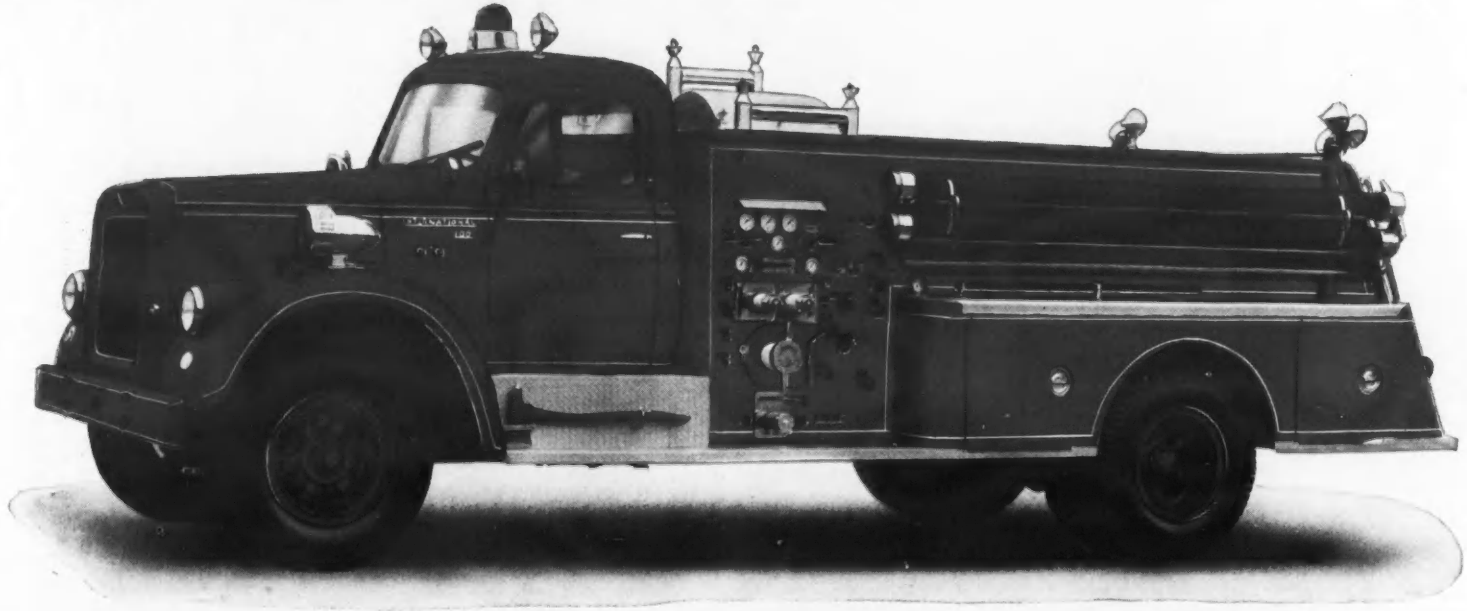

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FIREMEN

Volume 25 • Number 8

A monthly magazine published for the fire service members of the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts.

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Fire department organization has followed a traditional pattern of engine or pumper companies (to provide hose streams), ladder or truck companies (to handle other fire fighting functions), combination pumper-ladder companies, and various auxiliary units. Formerly these were individual and more or less autonomous companies of men coordinated and directed by chiefs or "engineers" on the fire ground. To some extent fire apparatus has been developed around these company functions. At present, however, relatively few fire departments outside of the larger cities maintain effective crews on duty for each of their fire companies. The vast majority of smaller paid departments have an average of two or three men on duty per first line piece of apparatus. Outlying stations may have only one piece of apparatus but stations housing two or more pieces of apparatus are quite common.

The number of paid men on duty in such a station may vary from 5 to 10 or more depending upon the type of apparatus, the district served, and the frequency of fire calls. The fact that there are nominally two or three "companies" in a station may have much less significance than the type of total response in men and equipment to each alarm, that is the total tactical fire team responding to first alarms and the manner in which the team is trained, equipped and organized to perform both engine and truck service functions.

A fire department on first alarm response to a fire should be able to make a strong two-position attack. For example, the department should be able to extinguish the average dwelling fire and prevent its extension to adjacent dwellings. In order to do this it must be able to make perhaps a front and rear attack, using at least two 1½-in. and two 2½-in. hose lines and performing other essential operations such as rescue, ventilation and salvage.

To carry out its operations effectively the department needs at least three pieces of apparatus equipped with hose, ladders and other equipment. To get the most out of the apparatus at least 12 men will be needed, although 15 men provide greater assurance that the necessary jobs will be done promptly and efficiently. A number of small communities at present can provide only two-vehicle response in first alarms. If this apparatus is well manned this response probably could handle a single dwelling fire, but the three-piece response, that is two pumpers and a rescue squad or ladder truck, with a total manpower of at last 12 men, naturally provides a more flexible and effective attack unit. Mercantile areas or industrial buildings require greater response, but a number of communities can attain this 12-man response with only a small increase or reorganization of manpower and equipment. However, if for some reason the three pieces of apparatus respond with less than 12 men, then the apparatus and equipment cannot be utilized to its full potential and fire fighting operations in this respect become more costly. Similarly, a lighter response of manpower and equipment means that more fires will get away simply because they are beyond the capabilities of the small attack force.

●

Bangor, Maine, fire fighters faced a hopeless task when this empty foundry building, shown on this month's cover, was involved by fire on June 18. Despite intense heat and strong winds they managed to set up effective protection of exposures. (Bangor *News* photo.)

1908 • DARLEY'S 50th YEAR • 1958

Waterfront view of the Seattle Cedar Lumber Manufacturing Company fire at the height of the blaze showing one of the fireboats moving into position

SEATTLE DELIVERS A WALLOP!

New Hanson distributor brings "mobile hydrant" to the fire and gives flexibility in use of hose lines.

The problem: On May 20, 1958, at 9:25 p.m. fire involves a woodworking plant that covers a 350- by 1,500-ft. area. Practically the entire area has buildings of ordinary frame construction with the exception of a warehouse, powerhouse and a dry kiln, all of masonry construction. One-third of the plant area is over a basement; the rest over tideless water with low inaccessible space underneath the floor. Next to the buildings is a lumber storage yard of approximately 75,000 square feet with 7 million board feet of cedar lumber placed on pilings over the water. Narrow tramways separate the 50-ft. high lumber piles.

The plant is accessible from the street for 1,000 ft. on one side, but the other three sides are over water. Almost the entire plant is protected by automatic sprinklers supplied by two 2,000 gpm pumps and a 100,000-gallon gravity tank. There is no connection to city water supply, but there are two fire department siamese connections.

Water supply in the area is excellent with a 16-in. main in front of the plant having 125-pound static pressure. All of the hydrants are four-way with 6 located within 300 ft. of the plant, 9 within 500 ft., 12 within 750 ft. and 17 within 1,000 ft. Total value of the plant is $5 million, and because of the congestion the entire area can be considered as subject to one fire.

What you have: Prefire inspections have given you an excellent summary of the hazardous areas. A battalion chief has pointed out the dangerous area under the kilns which are built over water. The chief has called your attention to the many piles of finished lumber 50 ft. high with no protection between them and the plant. A report has also stated that there is danger of the sprinkler system being overwhelmed in case of a large fire in the lumber piles at the south and east ends of the lumber kiln.

You also have the Seattle, Washington, Fire Department with 703 men in 39 engine companies, 11 ladder companies, 2 reserve monitor companies and two fireboats.

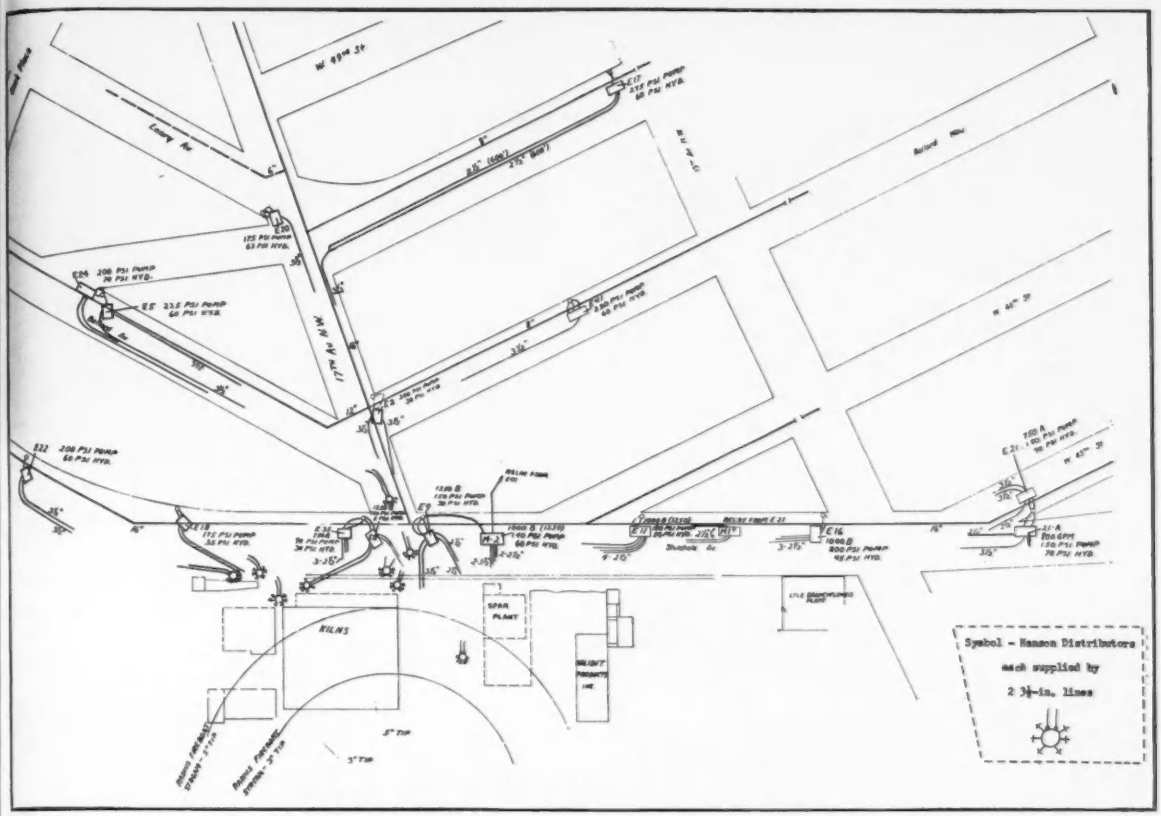
Using about two-thirds of your total fire fighting personnel and half of your apparatus and equipment your job is to produce the greatest concentration of fire streams in the Department's history. Here's how it was done in Seattle.

From a Report from Chief William Fitzgerald of the Seattle, Washington, Fire Department

THE fire that involved the Seattle Cedar Lumber Manufacturing Company on May 20 was an all-out test of organization, manpower and machines. It started in a hot kiln filled with lumber for drying and eventually involved 30 percent of the building and 7 million board feet of cedar lumber in 50-ft. piles, all blazing at one time.

An engineer and a watchman both saw the fire start and simultaneously pulled two ADT manual alarms which were promptly transmitted to the Seattle Fire Department. First response units, Battalion 4, Engine 18 and Ladder 8, at first could see no fire and also noticed that the deluge sprinkler system and the automatic sprinkler systems were operating very poorly. Then fire was found to be coming from underneath the kilns, and some of the men took hose lines between the kilns and the stacked lumber. As they reached this position, a blast of fire engulfed them, and they had to drop the hose lines and flee for their lives. At this time, a third alarm was dispatched and the fire, principally in the inaccessible area underneath the kilns, proceeded to involve the lumber storage area.

Long before this fire occurred the Seattle Fire Department had made special plans for such an incident. Some time ago Deputy Chief Frank Hanson invented a device now called the "Hanson distributor," which is manufactured in the Fire Department Repair Shop. The distributor is circular in shape, measuring approximately 17 inches in diameter and 11 inches high and weighing 68 pounds. It has two 3½-in. automatic inlets and six 2½-in. gated outlets, with a pressure gauge recessed in the top center. During last Fall the chief officers of the Department made some studies to perfect the use of this device. It was decided that by using a



Sketch of firegrounds showing placement of apparatus and Hanson distributors.

skid load of lightweight 3½-in. hose for supply the device could be placed quickly and easily and the six 2½-in. lines could be used as hand lines, standpipe supply or siamesed for monitor streams. The distributor is carried in a recess at the rear of a pumper body below the hose bed floor and is preconnected to a single 3½-in. line. Right now 10 pumpers in the Department carry this Hanson device with 600 ft. of 3½-in. hose in a single line plus a skid load of 200 ft. of lightweight 2½-in. hose in 100-ft. lengths.

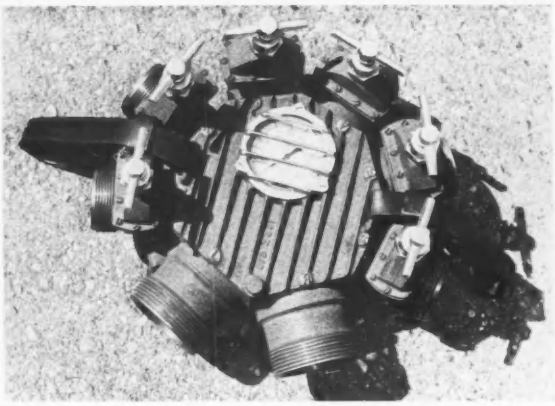
In practice the pumper stops at a fire, a Hanson and a skid load are laid down as close to the fire as possible and the pumper lays 3½-in. line to the hydrant and hooks up. This sets up a 6-port high pressure hydrant right at the fire with three gated outlets and one or two 2½-in. lines immediately available in the time that it would take to lay a single 2½-in. line. Three more gated outlets become available as soon as a second 3½-in. line is laid. This was a tremendously important factor in the handling of the Seattle Cedar Lumber Manufacturing Company fire.

There is still some confusion about the operation of the sprinkler system. It was alleged that a plant employee shut down the sprinkler system in the first involved lumber kiln and that the system had been turned off for approximately 7 to 10 minutes before being turned on again. It was also reported that another employee had shut down everything including power and fire pump. As yet the issue has not been resolved.

In any event as fire blasted from the kilns and involved the stacked lumber a series of multiple alarms brought the Fire Department and other services into full mobilization. The first alarm had been sent at 9:25 P.M. This brought four engine companies and a ladder company from Batallion 4. Seventeen minutes later a 1-11 alarm brought four more engine companies, another ladder company from Battalion 6, the battalion chief and a deputy chief. A third alarm was sent at the same time and brought four other engine companies. At 9:53 P.M. a special call brought four more engine companies and the fireboat from Engine 4. Another call brought two special monitor pumpers. Subsequently, additional special calls brought two more engine companies, two rescue companies and the Department gasoline truck.

Altogether 20 pumpers were working at this fire. The hydrant water supply was excellent with three hydrants supplying two pumpers each and 10 hydrants supplying one pumper each. Two pumpers were used in relay operation and two pumpers were used as hose wagons.

Altogether 9 of 10 available Hanson distributors were used at the fire, with a total of 8,200 ft. of 3½-in. supply line and 23,600 ft. of 2½-in. working attack line. The 9 distributors gave us fifty-four 2½-in streams augmented by twenty-two 2½-in hose lines supplied directly from pumpers. In other words, a total of seventy-six streams was produced by sixteen pumpers working at hydrants. We found that the average length of line was also shortened; that is, the 3½-in. supply lines averaged 382 ft. and the 2½-in. hose lines averaged 285 ft. Since 1⅛-in. straight



THIS

Top view of Hanson distributor used by Seattle Fire Department. Two 3½-in. inlets are at bottom. Six 2½-in. gated outlets at top. All couplings have National Standard thread. Note gauge and carrying straps.

PLUS THIS

Pumper of Engine Company No. 2 showing distributor at left. This is the uniform hose load and placement of the distributor for all apparatus in the Department. Three sizes of hose are carried: on the left is preconnected 1½-in. hose; next to that is a reverse load of 2½-in. hose; in the center is a flat load of 600 ft. of 3½-in. hose; on top of this a skid load of 200 ft. of lightweight 2½-in. hose tied in two bundles with a combination nozzle attached; and at right is 600 ft. of 2½-in. hose for a forward lay. Pumper normally operates from the rear preconnected suction hose, although preconnected suction hose is on the side also.

THE HANSON DISTRIBUTOR

PLUS THIS

Method of removing skid load and distributor for reverse lay to hydrant. Binding straps are removed from skid load. This is Seattle's conventional system of getting the Hanson distributor in action.

LIKE THIS

Each man carries 100 ft. of 2½-in. lightweight hose which pays off from the shoulder as the line is laid in place. Skid load can be broken into two lines as quickly as a single line can be put in operation.

GIVES THIS!

Hanson distributor in action supplying six 2½-in. lines and fed by two 3½-in. supply lines. According to Chief Fitzgerald, the distributor has increased the average number of fire streams in operation by 65 percent. During the Seattle Cedar Lumber Mfg. Company fire an average of 4.22 lines per pumper were used even though hydrants were accessible only on one side of the fire.

stream tips were used, the average fire stream was 250 gpm with 45 pounds nozzle pressure. Of course some of the 2½-in. lines were siamesed to portable monitors, and some lines were shifted. Actually, however, hydrant output was approximately 19,000 gpm, and the fireboat, supplemented by a U. S. Navy fireboat, provided 23,500 gpm. During the height of the fire when we were drawing all we wanted from the hydrants, static pressure dropped from 125 psi to 85 psi.

Total pumper response during all of the alarms included the following: six 1,500 gpm Class A, six 1,250 Class B, two 1,000 gpm Class B, two 800 gpm Class B, three 750 gpm Class A and one 500 gpm Class B. In reserve we had 37 engine companies, two fireboats, 11 ladder companies and two monitor companies. Altogether 503 men, including off-duty personnel, worked at the fire, while 200 men (including off-duty) remained to man the stations for other possible alarms. In addition, the Shop Supervisor, with four mechanics, and the trouble truck responded, plus the Fire Alarm Supervisor and one radio repairman.

This fire brought the greatest projection of fire streams in the history of the Department. At one time we had 76 streams going, while in the years before we had the Hanson distributor our greatest total was only 25 streams. Despite the initial rapid involvement of the lumber pilings, and despite the combustible buildings on the property, the total fire loss appeared to be only 39 percent of the possible $5 million property. In my years of experience I don't recall an involved saw mill property of this size and extent that resulted in much less than 100 percent loss.

Firemen's Training in Malaya

FROM the Far East comes news of a recently built fire school on the outskirts of Kuala Lumpur, capital of the Federation of Malaya. The school has been established for about nine months and is used for training fire fighters of local communities, officers of the Federation army and air force as well as industrial fire brigade members of local plants. Malaya is undergoing rapid industrialization, and the school was founded to develop personnel who could handle fires in the rubber factories, tin mines and power stations. The Malay States are part of the British Colonial Empire, and Col. F. F. C. Watkins, Director of Fire Services of Federated States of Malaya in Kaula Lumpur, retains membership in NFPA.

The training program is designed primarily to develop instructors who will pass on the training information to their local brigades. Courses cover the basic principles of fire fighting, including hose and ladder evolution, operations of pumps and rescue work as well as aircraft fire fighting and rescue. Special courses cover the handling of ship fires, electrical hazards, flammable liquid fires, arson and sabotage.

At last reports the school had trained 48 senior officers, firemen and sergeants from the army and fire brigades. Also scheduled for training are officers and men from the air force and civil aviation services.

Training tower at Malaya fire school is this 60-ft. high scaffold with platform. Here a trainee moves from a ground extension ladder to a 10-ft. ladder attached to the platform.

This mock-up is used to show construction of various types of apartment buildings, schools, shops and factories. Here the Chief Instructor shows how apparatus should be moved for combating building fires.

Trainees move hose line from a trailer pump under the supervision of a sergeant. In background is a portable canvas tank.

MAKING A GOOD JOB OF IT

WHAT ABOUT QUINTS?

by Warren Y. Kimball

MUCH that we have previously said about "quads" as pumper ladder combinations applies equally to the "quint" which is a 5-way combination having pump, hose, water tank and small line, ladders, and an aerial.

As the quint is supposed to have full pumper and ladder truck equipment it becomes a large, heavy, costly vehicle. It may provide a spare for either engine or ladder service but is definitely an inferior substitute for separate engine and ladder companies, because normally the ladder equipment should be close to the fire building and the pumper apparatus must be placed where it can best supply pressure to hose lines. Also, when it is necessary to lay lines with the apparatus the ladders may be needed at the fire simultaneously for rescue or ventilation.

This is not to say that there are not advantages in providing certain pumping equipment with ladder trucks. Standard No. 19, "Specifications for Motor Fire Apparatus" is so arranged that various combinations may be specified by indicating which chapters of the standard will apply. To clarify this it may be helpful to review the nine chapters of No. 19 covering the various components of fire apparatus, as follows:

1. Requirements of Bid and Delivery
2. Provisions Applying to All Types of Apparatus (Engine, Electrical System, Road Tests, etc.)
3. Provisions Applying to Apparatus Equipped with a Pump (Controls, Acceptance Requirements, etc.)
4. Provisions Applying to Apparatus Equipped with a Hose Body.
5. Provisions Applying to Apparatus Equipped with a Booster Pump.
6. Provisions Applying to Apparatus Equipped with a Water Tank.
7. Provisions Applying to Apparatus Carrying Ground Ladders.
8. Provisions Applying to Apparatus Equipped with an Aerial Ladder.
9. Equipment to be Carried on Various Types of Apparatus.

Thus a quad should comply with all except chapter 8, and a quint should theoretically comply with the requirements of all nine chapters if it is to have the complete equipment of a pumping engine and of an aerial ladder.

On the other hand an aerial ladder having no fire extinguishing equipment greater than hand extinguishers would merely comply with chapters 1, 2, 7, 8 and 9.

Experience has taught many fire departments that it is important to have some extinguishing equipment on an aerial ladder truck which may arrive at a fire ahead of other apparatus. Accordingly, a large percentage of aerial ladder trucks, except those serving high value districts of large cities, carry at least a booster pump with water tank and small hose. Such apparatus would require compliance with chapters 5 and 6 of No. 19.

A fire chief may reason that with the aerial truck having a powerful engine it might be desirable to specify a 750 gpm or 1000 gpm pump on this truck, not with the idea of having it serve as pumper-ladder company but to provide additional pumping capacity on the fire ground at relatively low cost. Such a pump is ideal for boosting pressure to ladder pipes and other heavy stream devices where lines are run from pumps at hydrants. A ladder truck with a major pump would comply with chapter 3 and the booster pump covered in chapter 5 would not be needed except that a booster hose reel might be wanted. This piece of apparatus would not require a large hose body such as provided on a pumper or a complete quad or quint. It might merely have the regular ladder pipe hose, the small line for use with the water tank and perhaps a few lengths of line for supplying the tank or pump. It would not need to carry hard suction hose because on the fire ground the pump would always be supplied under pressure.

Such a piece of apparatus would weigh little more than a conventional ladder truck with water tank. Its cost would be increased by the addition of a capacity pump for the booster pump. There would be the engineering problem of providing power controls for simultaneous operation of both pump and ladder.

Some fire departments with standard ladder trucks regularly carry a few hundred feet of 1½- and 2½-in. hose with nozzles and hydrant wrench so that the truck company can lay a line if an engine company is not immediately available. If the department follows this policy two things are necessary. Sufficient compartment space should be specified on the ladder truck for carrying hose. Usually, this will be an enclosed compartment across the truck beneath the ladder frame, but it may be a compartment along the side of the truck. The other requirement is that the hose receive the same care as engine company hose so that it will be in proper condition when needed. Compartments can be specified either under chapter 4 (hose compartments) or chapter 2 (body compartments).

Thus the problem of combination ladder truck design boils down to deciding the type of service it must perform and then specifying the necessary components. There may not be need for going to a completely equipped quint if the ladder truck is to be assigned to operate as a truck company or in conjunction with properly equipped pumpers.

On the other hand small stream equipment may be a valuable adjunct to a ladder truck and in many cases a good capacity pump will be an excellent investment. An aerial truck equipped with a pump and tank and assigned to respond with a pumper gives the flexibility of two-pump operation while providing the required ladder truck equipment on the fire ground. However, a ladder truck so equipped should never be thought of as an engine company because its primary work will be truck service.

LIGHTWEIGHT LIFE GUN

MANY stories have been told about the devastating wallop of the life guns used by the fire service. For example, one prominent fire chief likes to tell about a certain powerful Irishman (whom we shall call Finnerty) who for years had pleaded with the chief for permission to fire a life gun, if only in practice. Time after time, however, the chief spurned his pleas simply by saying, "I'm saving you for something BIG, Finnerty."

Finally, the department one day was handling a fire and the chief saw the possibility of using a life gun. Much to Finnerty's delight, the chief said, "O. K., Finnerty, get that line up there."

The perspiring, excited Finnerty grabbed the life gun, took his position, drew a bead on the target, then fired. He was not ready for the kick of the gun which knocked him off balance, tumbling him to the pavement. When he finally got to his feet, dazed and trembling, the chief was there complimenting him on an excellent shot. Finnerty could only mumble something like "Wholly cheese!" The chief's final remark was, "You see, Finnerty, all these years I've been saving you for something big. I would have let you fire the gun before, but when the time came I didn't want you to be gun-shy!"

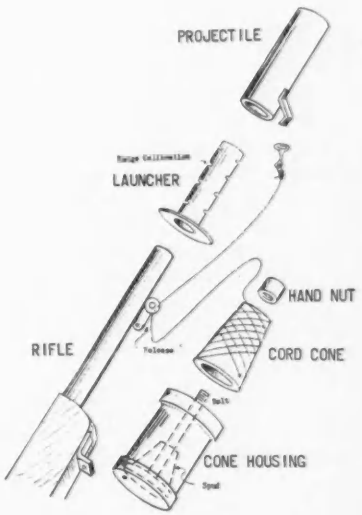
C. W. Stickney, Chief Investigator, Portland Fire Department, shows method of assembling new life gun. Projectile in his left hand has a booster charge.

Finnerty and many other members of the fire service probably will be greatly interested in a new life gun now in use in the Portland, Oregon, Fire Department. Designed by Chief Investigator C. W. Stickney of the Department, Gunsmith Frank F. Cosby and Wallace Frost of the Northwestern Converting Company, the new gun is supposed to be more powerful and versatile than anything previously used by fire departments.

Simply by placing the projectile at certain positions on the calibrated launcher, the gun can fire for a distance of 100 to 450 ft. An additional 150 to 200 ft. may be gained by use of a booster cartridge placed at the end of the launcher. The booster charge stays in the line-carrying projectile when fired and its powder is ignited by the discharge of the gun's cartridge, thus acting somewhat like a rocket in flight. A .30-06 cartridge is used to power the projectile.

The rifle used in Portland was converted from a service model Enfield, but a Springfield, Winchester, Remington or any other strong bolt action rifle can be used. A small nylon line about 1/16 in. in diameter with 180 pounds tensile strength is unwound from the outside of a cone-shaped spool located in the open-end canister and operates in the same manner as a large spinning reel. The spool has 650 ft. of line. (This differs somewhat from the usual spool where the line is unwound from inside to outside.)

Recoil of the new gun is said to be very mild — approximately that of a .30-30 caliber deer rifle and only about 50 percent that of the old time line-throwers. This light recoil makes the rifle much more accurate, and the range of up to 600 ft. is much greater than the standard range of 200 ft. of the old guns. Portland plans to put three of the new guns in service on a fireboat, a disaster car and a truck, and more are planned for use later. Primarily the gun will be used for getting a line to people in rescue operations involving high buildings, cliffs, mountains, across canyons and on water, with several incidental uses such as getting a line over hazardous chimneys or walls during overhauling operation.



Rough sketch of new life gun showing calibration on launcher and spool for life line.

Finnerty would love it!

N. Y. State Building Code

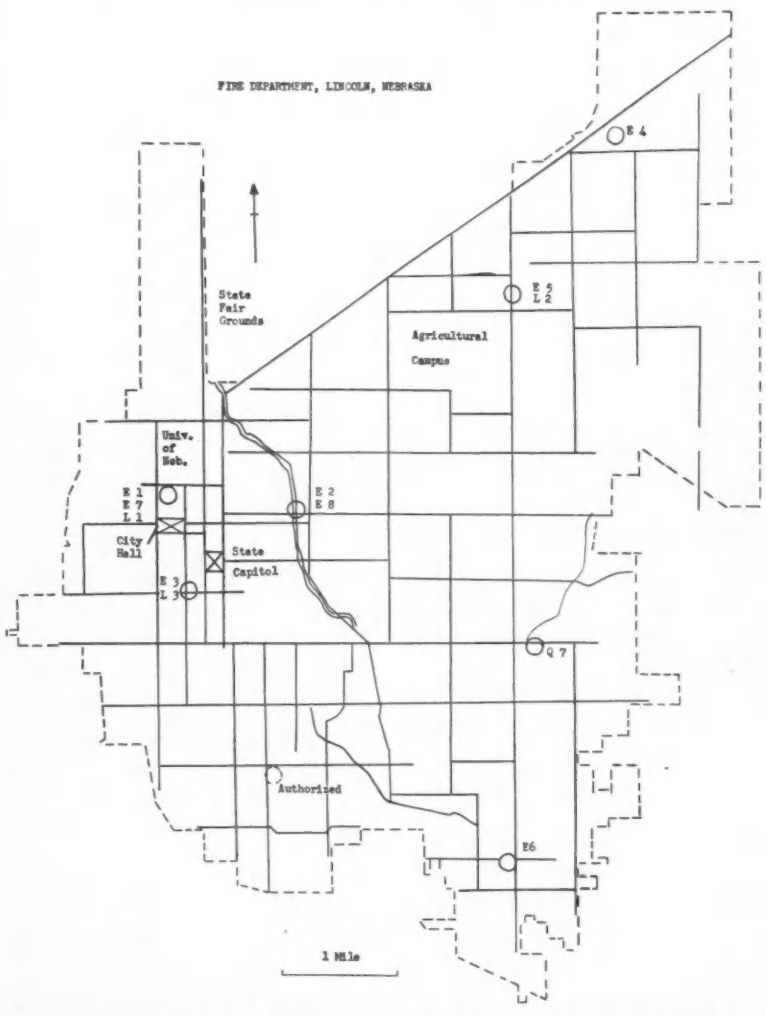
THE City of Glens Falls, New York, recently accepted the State Building Construction Code thus bringing the number of municipalities using the State code to 250. Glens Falls is the 33rd of the State's 62 cities to accept the code. Included also among the 250 communities are 81 towns and 136 villages.

Previously, Glens Falls had regulations for plumbing and electrical installations, but it never had a building code. The new code will be administered and enforced by the Glens Falls Building Department, and the State Building Code Commission will be responsible for keeping the code up to date.

Lincoln, Nebraska, Fire Department

THE Lincoln Fire Department, which protects the capital city of Nebraska, tries to get the most out of available manpower and equipment by utilizing modern fire fighting and fire prevention techniques. Lincoln is a beautiful city with tree-lined streets at the center of which is the towering state capitol, the most modern capitol building in the nation.

The Lincoln Fire Department, headed by Chief E. P. Feaster, a fire fighter with more than 40 years' experience, shares a problem common with many other city fire departments — a number of the fire companies are undermanned. Lincoln's present seven fire stations protect 25 square miles of territory with 125,000 residents plus a student population of 6,500 at the State University. Recently, city officials authorized a much-needed new two-door fire station for the south side where extensive built-up areas are over two miles from the nearest station.



Sketch of Lincoln, Nebraska showing location of existing and authorized fire stations. Large maps of the city are used continually in the Fire Prevention Bureau to keep close check on the progress of building inspections. Distinctive colors are filled in block by block as fire companies complete inspections in each of the 12 assigned districts.

FOR JUMBO FOG NOZZLE - DISCHARGE - 500 GPM

2 - 2½-in. Lines		3 - 2½-in. Lines	
Ft. Hose	P. Pres.	Ft. Hose	P. Pres.
100	140	100	130
200	155	200	140
300	170	300	145
400	185	400	155
500	200	500	160
600	215	600	165
700	230	700	175
800	245	800	180

ADD 5 POUNDS FOR EACH 12 FEET OF ELEVATION

If ladder nozzle is used, add 20 pounds for fric tion loss in 100 ft. of 3-in. hose. To operate this layout a 1,000 gallon pumper in pressure mo is needed; for longer lines an additional 1,000 gallon pumper should be used.

The fact that individual fire trucks presently have only three or four men on duty is in part offset by the fact that two stations have two pumper companies each, and three stations house both pumper and ladder companies. The Department has three modern 100-ft. aerial ladders, one of which is a "quint" with a 1,000 gpm pump.

The city is divided into 12 fire company inspection districts which are shown on large maps in the Fire Prevention Bureau office. As the fire companies complete block by block in-service inspections these are filled in by a distinctive color so that the progress of the current inspection program can be seen at a glance.

In operational training, special attention is given to the development of good streams of all sizes. Relay practices are stressed including large-volume relays with three or four lines between pumps. Much use is made of 1½-in. hose and fog nozzles including large fog nozzles on ladder pipes. Special attention is given to using proper pump pressures for effective streams, and where a hose layout requires excessive pressures multiple lines or relays are used.

Shown above are some of the pocket-size cards issued by the Department to show the required flows, pump and nozzle pressures used. These cards are mounted in the operator's panels of pumpers. For solid stream hand lines, 1⅛ and 1¼-in. tips are employed with 55 pounds nozzle pressures giving flows of 280 and 340 gpm. For heavy solid streams, tips of 1½, 1¾ and

For 1½-in. Hose Discharge 100 gpm for each 1½-in. Line, Nozzle Pressure 100 Pounds		Friction Loss in 2½-in. Hose		
Feet 1½ in.	Pump Pres.	GPM	Feet 2½ in.	Pounds
100	132	100	100	3
200	164	200	100	10
300	196	300	100	21
400	228	400	100	36

ADD 5 POUNDS FOR EACH 12 FEET OF ELEVATION.

DO NOT EXCEED 240 POUNDS PUMP PRESSURE. If more pressure is needed lines should be added or additional pumps used.

PUMP PRESSURE FOR THE FOLLOWING SIZE NOZZLES AND LINES

1 1/8-in. Tip Discharge in Gallons Per Min. 280 Nos. Pres. 55 Pounds		1 1/4-in. Tip Discharge in Gallons Per Min. 340 Nos. Pres. 55 Pounds		Use for all 2 1/2-in. Fog Nozzles Hand Lines, 260 GPM	
Ft. Hose	P. Pres.	Ft. Hose	P. Pres.	Ft. Hose	P. Pres.
200	95	200	110	200	130
300	115	300	135	300	150
400	135	400	165	400	165
500	155	500	190	500	180
600	175	600	215	600	195
700	195	700	245	700	210
800	215			800	230
900	235			900	245

ADD 5 POUNDS OF PRESSURE FOR 12 FEET OF ELEVATION

DO NOT EXCEED 240 POUNDS PUMP PRESSURE. If more pressure is needed, lines should be siamesed or additional pumps used.

Here are reproductions of the useful pocket-size cards, furnished by the Department for the panels on all pumpers and for each fire officer. This handy information speeds up hydraulic calculations and assures good use of hose layouts and proper pump pressures.

2 inches are used at 80 pounds giving flows of 600, 825 and 1,080 gpm.

The department has four 1,000 gpm pumps including the quint and five 750 gpm pumps in service and three pumpers in reserve. Also in reserve at headquarters is a foam truck. One of the reserve pumpers has been equipped as a hose tender to respond with engine companies in certain districts.

The department has issued a new drill manual with chapters on fire fundamentals and equipment, ladder evolution, hose practices, hydraulics, basic fire pump operation, ropes and knots, ventilation, electrical equipment, salvage practice, automatic sprinklers, special equipment, nozzles and fittings, rescue and first aid, gas masks, breathing apparatus and inspection of buildings.

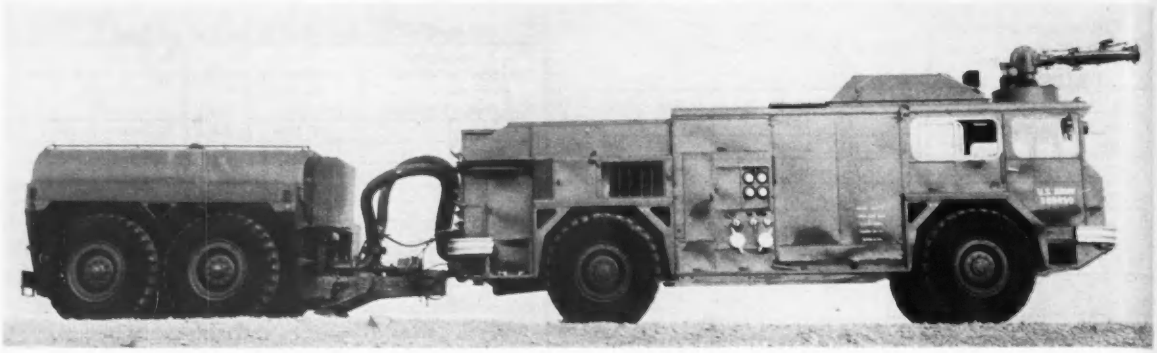
New Training Aid

THIS structure is not the well-known "black house" immortalized in verse by James Whitcomb Riley. Rather it is a new facility added to the fabulous training grounds of the Rochester, New York, Bureau of Fire headed by Chief Walter Adams. Built by two fire fighters who are skilled carpenters, this structure is designed to show recruit fire fighters how wood frame buildings are put together and to allow instructors to point out how fires travel in such buildings.

The exterior of the building has a different type of siding on each side: shiplap, novelty siding, composition siding, and wood shingles. The interior sides employ two different types of framing, one an open "western" framing and the other a solid firestopped framing called for by modern building codes. Two types of roof framing and decks are also seen from inside the building. One is an open deck (with spaces between boards) to which the roofing is applied and the other is a solid wooden roof deck. The rear wall shows the typical framing of a window opening behind which fire so often lodges so that instructors can teach the proper overhauling of these concealed areas. Interior walls also show installation of several types of insulation material which have a bearing on structural fire behavior and fire fighting. The cost of this facility was negligible, as it was built by experienced fire fighters.

Why Farms Burn!

APPARENTLY the fire safety message has not penetrated very effectively into the Farm Belt if the amount of careless and promiscuous burning in the open that takes place is any criterion. Typical was this fire in a mountain of corncobs so close to two frame barns that at times the buildings were enveloped in smoke and almost hidden from sight. The fact that this farm near the Missouri River on U. S. Highway 30 in Iowa is remote from any effective public fire protection seemed to be of no interest to the farmer on the morning of June 6 as he unconcernedly operated his tractor while flames and smoke fanned by a brisk breeze billowed around the buildings. Any person educated in fire safety generally shudders at the common fire hazards that are observable from the highway and appear to be accepted in areas where fire prevention has not reached the people. This is one reason why the NFPA Committee on Rural Fire Protection is urging fire departments serving rural areas to carry the "gospel" of fire safety. The Committee has recently completed a pamphlet to help fire departments conduct rural fire inspections and year-round fire prevention.



DESIGNING THE "CLASS 1500"

A report by John D. Grabski, Chief of the Equipment Section, U. S. Army Engineer Research and Development Laboratories, Fort Belvoir, Virginia

THE Class 1500 Fire Truck was developed to fulfill military requirements for an all-purpose fire fighting vehicle that could be flown in a plane and would have a high degree of cross country mobility and ability to operate at minus 65° Fahrenheit. This military fire truck must also carry a relatively large quantity of water.

The "Class 1500," developed by the Corps of Engineers and built by the Walter Motor Trucks Company, is designed to give fire protection for missile installations. However, it may also be used for fuel storage tank farms, camps and depots. It can move at low speeds while pumping at full capacity, thus being suitable as a crash fire truck. Cross country mobility seems at least equal to that of any other wheeled military vehicle.

In order to meet all these requirements it was necessary to deviate from conventional fire truck design. The lightweight, rigid body and frame of the Class 1500 are all aluminum. To improve visibility the engine was mounted at the rear with the 6-man cab in front, and the tank and the pump in the center.

The truck is a "4 by 4," powered by a 330 HP liquid cooled V-8 gasoline engine. Power is transmitted through a torque converter to a three-speed synchromesh transmission and from this to the bevel drive assemblies. A self-locking differential is incorporated into each of the two bevel drive assemblies, and a third differential in the transmission differentiates between the front and rear drive shafts. Power is transmitted from the bevel drive assemblies through universal jointed jackshafts to final drive gears in each of the four wheels. The final drive in the wheel consists of an internal spur gear attached to the wheel and driven by a pinion attached to the jack shaft.

Disc type brakes mounted on the differentials apply the braking torque to the jack shafts instead of directly to the wheels. The differentials are mounted on the vehicle frame, and all components of the drive train except the jack shafts and the final drive gears in the wheels are housed inside the vehicle. This gives a smooth uncluttered undersurface which materially improves vehicle performance in deep mud or snow. This arrangement also reduces the unsprung weight which improves riding and handling characteristics on rough roads at high speeds.

Taking the final reduction in the wheels reduces torque transmitted through the driving axles and the bevel drive, thus reducing the size and weight of the differentials and axles. Mounting the brakes on the differentials instead of in the wheels reduces the braking torque and consequently the size and weight of the brakes. The four 16:00 x 25 tires on the wheels give excellent flotation and cross country mobility.

As mentioned previously, the truck can move in low gear at low speed while pumping at full capacity even though the same engine is used for both propulsion and pumping. This is accomplished by employing an unusual transmission design. The main transmission shaft is hollow and drives a second shaft through the transmission gearing which is arranged very much the same as in a conventional synchromesh transmission. Front and rear drive shafts are connected to the ends of this second shaft. A solid drive shaft connected to the torque converter runs through the hollow shaft, driving it by means of a friction clutch. A second clutch connects the solid shaft to the fire pump drive. Thus, the speed at which the pump is driven is independent of the speed of the transmission output shaft and depends only on convertor speed.

The two-stage centrifugal pump has a capacity of 1500 gpm at 150 psi. Three 2½-in. discharge gates are mounted on each side of the vehicle and two 5-in. suction inlets are provided on each side and at the rear of the vehicle. Two 4-in. discharge lines connect the pump to the roof mounted turret. The pump and a foam proportioner can be controlled from inside the cab or

from the pump operator's panel on the right side of the vehicle.

The vehicle carries 950 gallons of water and 200 gallons of foam concentrate in tanks located immediately behind the cab. Two 150-ft. booster hose reels are provided, one on each side of the vehicle. Hose beds, at the rear, above the engine compartment, have a capacity of 1200 feet of 2½-in. single jacketed dacron fire hose. Ladders and four lengths of 5-in. suction hose are carried above the engine compartment between the hose beds. Provision is also made for the storage of nozzles and adapters and the projection in the roof of the cab behind the turret is a storage space for firemen's clothing, breathing apparatus, auxiliary lighting and other equipment. The vehicle can be equipped with an electrically controlled turret operated from inside the cab. This can deliver 1500 gpm of water through a straight stream nozzle or 1000 gpm of water and foam concentrate through two siamesed 500 gpm National Foam System nozzles.

If additional water capacity is required the vehicle can haul a 2000 gallon tank trailer, equipped with a 1500 gpm 18 ft. head pump, driven by a 12 HP 24 volt d.c. motor powered by the truck electrical system. The truck has a 300 ampere battery charging generator and four large 12 volt batteries connected in series-parallel which provides adequate capacity for the operation of this pump along with the other electrical equipment on the truck.

The trailer pump is entirely automatic. A float switch installed in the truck tank energizes the trailer pump when the water level in the truck tank drops to ¾ full. Water is pumped through the two 5-in. suction hoses into the fire pump suction connections at the rear of the truck. When the trailer tank is empty its float switch de-energizes the electric pump and the fire pump draws the balance of the water from the truck tank. If the rate of discharge from the fire pump is less than 1500 gpm, surplus water from the trailer flows into the truck tank. When the truck tank is ¾ full the float switch will shut off the electric pump. There is no interruption in pumping when changing from one tank to the other, thus providing for an uninterrupted 3000 gallon discharge at the desired flow.

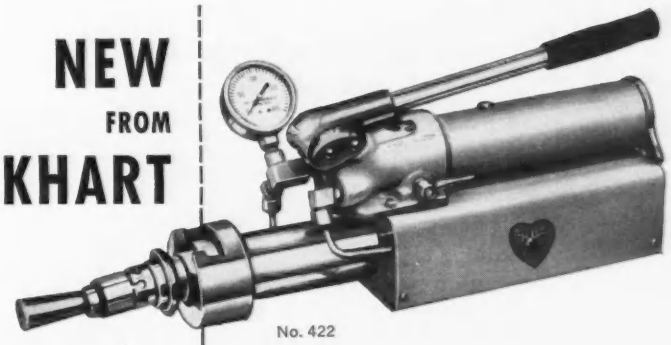
The fully loaded truck, less trailer, has a top speed of 60 mph and will accelerate from 0 to 50 mph in 60 seconds. It is capable of climbing a 60 percent grade.

The fire truck is 28 ft. long, 8 ft. wide and 12 ft. at the highest point on the turret. Height can be reduced to 9 ft. by removing the turret and the storage area in the roof of the cab. Fully loaded, the vehicle weighs 36,000 lbs.; empty, the weight is 25,000 lbs.

Compulsory Retirement in New York

A NEW law signed by the mayor of New York City makes 65 years the compulsory retirement age for members of the Fire Department. The law will become effective August 21 and is reported to affect about 200 officers and men. It means that the Fire Department will lose a lot of experienced personnel, but it also provides greater opportunity for the young men in the Department who seek advancement.

NEW FROM ELKHART



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Unit can be mounted on bench, stand or operated on the ground in case of emergency.

Used for attaching brass expansion ring couplings in sizes: ¾"—1"—1¼"—1½"—2"—2½"—3"

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TWIST TEST FOR LADDER RUNGS

New recommendations for ladder testing detailed in Standard No. 193

DURING the NFPA Annual Meeting in Chicago, Illinois, this past May, a number of significant changes were adopted for NFPA Standard No. 193 covering the testing of ladders. The standard, prepared by a subcommittee of the Committee on Fire Department Equipment, now bears a new title, "Fire Department Ladders, Ground and Aerial, Use, Maintenance and Testing." For fire departments, this booklet has some important recommendations on ground and aerial ladders including a test procedure that can be used for both wooden and metal aerial ladders, some new information on proper ladder loading and a number of diagrams showing some simple methods and materials for testing ladders.

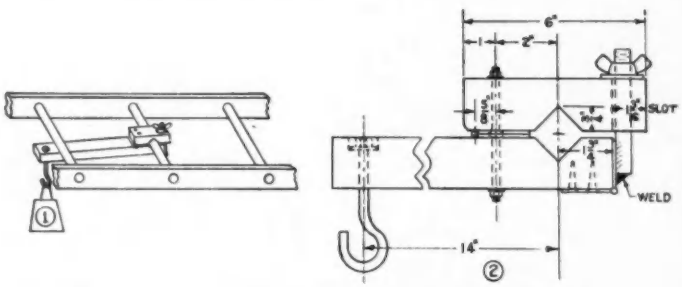
One of the new features for this standard concerns a recommended twist test for ladder rungs. All ground ladders should be tested once a year and at any time that a ladder is suspected as being unsafe, after it has undergone severe loading or when there are signs of possible damage. One of the fundamentals of inspecting a ladder is to make certain that all rungs are snug and tight. First they should be tested simply by attempting to twist them by hand. If any rung appears to be loose then a twist test should be conducted.

Materials for conducting a twist test are shown in the diagram on this page. All that is needed is a pailful of sand weighing 25 pounds and a simple quick clamp which can be fastened on each individual ladder rung. The pail of sand is hung on the 14-in. moment arm and if the rung turns in its socket, then it should be repaired or replaced. A description of the suggested quick clamp is included in the caption.

Another item to be checked during the inspection of a ladder is the tightness of all bolts and rivets. If the ladder has any welding that, too, should be examined for any apparent defects. Ladder rails should be studied for cracks, splintering, gouges or any other possible evidence of failure. A wavy condition in a ladder rail is evidence of compression overload and the ladder should be tested according to other recommendations in No. 193.

It is assumed that testing of a ladder will be done inside or during good weather. Whatever the condition, all wood ladders should be tested when air temperature is above 40 degrees Fahrenheit.

Copies of Standard No. 193 — "Fire Department Ladders, Ground and Aerial, Use, Maintenance and Testing" are now available for 50 cents each from the NFPA Publications Department.



Suggested quick clamp for twist test of ladder rungs.

TWIST TEST FOR LADDER RUNGS

Item 1. Pail and sand. Total weight 25 pounds.

Item 2. Clamp, made from the following parts: Two pieces of wood 2 by 4 in., one 16¾ in. long, one 6 in. long; four ¼-in. flat head machine screws 2 in. long, with nuts and flat washers; one ½-in. cap screw 4 in. long (head cut off) with flat washer and wing nut; two 3½-in. butt hinges; three 1-in. flat head wood screws for hinge.

If twist test can turn the rung in its socket, the rung should be repaired or replaced.

Removing Barred Windows

THE problem of saving lives in institutions where inmates are restrained behind bars has always been of major concern to many fire departments, and in years past barred windows and doors have been responsible for the loss of many lives from fires in such institutions. Many fire departments carry cutting torches or other cutting devices; but all too often these will not operate fast enough to save persons from fast spreading fires, or are not practical for removing bars from windows of upper stories.

The solution to this problem, adopted by the fire department of Lincoln, Nebraska, commanded by Chief E. P. Feaster (see page 14), has been to provide lengths of steel chain with sturdy hooks attached. A fire fighter, working from a ladder, can readily attach one end of a chain to the window bars while the other end is attached to the tow hooks of a fire truck. Thus the bars can be pulled free in seconds.

The Lincoln Fire Department responds to the Nebraska State Mental Hospital outside the city limits. Recently the fire department made an outstanding stop in a two-alarm fire which damaged roof and attic areas of one of the older buildings. Fortunately, no lives were seriously endangered due to the time of day, location of the fire and evacuation plans, but the department was prepared to remove bars from windows.

Chain equipment is stored in several containers on the apparatus floor of the station nearest the State Hospital. Whenever an alarm is received from the hospital or other building where the chains may be needed it is but the work of a moment to put this equipment on the running board of the ladder truck or other apparatus responding. The chains are in 25- and 5-ft. lengths.

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2-Tier (2000 ft. Capacity) — **$110.00 Complete**
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COMPLETE WITH TURNTABLE $325.00
LESS TURNTABLE $265.00
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Designed primarily for new stations. Removable trays are interchangeable with the hose racks in Circul-Air Dryers. Made in standard sizes or custom-built to any required length or height. Standard finish is "Hammerox" Gray to match Circul-Air Dryers. Prices on Application.

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SHIP TO .....
.....
ADDRESS .....
SIGNED ..... DATE .....

PLEASE SEND INFORMATION ON THE FOLLOWING:
☐ DRYERS ☐ WASHERS
OTHER _____
ALL PRICES NET — F.O.B. FACTORY

WOUNDS OF THE SKIN

by Dr. O. C. Kreymborg, Staff Member, Memorial and St. Mary Hospitals, North Platte, Nebraska, and Member, North Platte Volunteer Fire Department.

THE skin is an envelope in which the structures of the body are confined. It is composed of three general layers consisting of the glands, nerve endings, blood vessels, lymph vessels and pigment. Its two appendages are hair and nails. It varies in characteristics in male and female, youth and aged, white and colored. The skin, as an organ of the body, acts as a protector against absorption, a heat regulator, a secretory mechanism of oil and sweat, a sensory mechanism for protection, and also has touch and pain sense.

Bear all this in mind, because injury of any great degree to skin easily causes shock. The prevention and treatment of shock is of utmost importance to those doing first-aid work.

Skin, as the external covering of the body, is continuously being exposed to injury such as contusions, abrasions, punctures, lacerations, and thermal damage (burns).

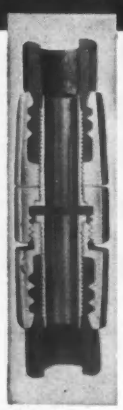
The effect of these injuries on the body depends entirely on the degree of injury, the body area involved and the structures beneath. Sometimes the effect of an apparently innocent external wound can baffle the best of medical men — thus, first-aid personnel should consider every injury as being of maximum severity and treat accordingly.

Contusions or bruises are probably the most common injuries and most usually innocuous. Depending upon its location on the body and the degree of trauma, a simple bruise may be the only external sign of deep impending injury. Normally, little treatment is required of the first-aider, though if the bruise is extensive and considerable transportation of the patient is needed, ice packs should be applied if available. The bruised part of the body should be placed in a position of rest, if possible.

The next most common skin injury is abrasion, usually caused by friction. In auto or machinery accidents, large portions of skin may be abraded, with dirt particles firmly embedded. Lymph and blood will soon appear over these areas. Dry sterile dressings can be applied to these wounds, but sterile vaseline gauze, placed on the abrasion before dressing, will help to keep the bandage from sticking to the wound.

Puncture wounds occur from nails, sharp metal projections, glass spicules, slivers, etc. It is questionable whether such items that stick in the flesh should be withdrawn by the first-aider. Frequently, particles of glass or slivers are only partially removed and can lead to complications. Use your judgment as to withdrawal of such an item but examine it carefully to be sure it is intact. Afterward, simple sterile dressings on the wound are sufficient.

Lacerations may be so simple that a "Band-Aid" may suffice, or they may be so devastating that hemor-



Patented

1. FULL FLOW—no significant reduction of internal diameter. Pressure is assured.
2. STREAMLINED—round-edged design, no projection.
3. INTERNAL EXPANSION—prevents shrinkage of the hose at the coupling.
4. ACCURATELY MACHINED—always the same . . . interchangeable.
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6. WEIGHT—no heavier than comparable expansion type coupling.

Successfully Tested To Bursting Point Of Double Jacket, Single Jacket And Sweat Hose

Recognizing the trend toward higher and higher pressures in fire fighting, Bar-Way has developed a revolutionary coupling that will withstand the pressure and the pull. This new coupling is designed to fire fighting specifications. It guarantees full flow, full pressure, it is streamlined to slip over obstructions, and it can be interchanged anywhere at any time without damage to either the tube or fabric. Specify Bar-Way! Write Bar-Way Mfg. Co., Stamford, Conn.

Available in polished bronze in both standard rocker and forestry lug. 1½" in production. Larger sizes will be available.

BAR-WAY MFG. CO., STAMFORD, CONN.

rhage may endanger the life of the victim. Unless severe arterial bleeding occurs, ample sterile sponges with pressure bandaging will control the bleeding. We condemn the use of a tourniquet unless the extremity is torn or mashed so that amputation may be required. (See the latest edition of the Red Cross Manual on First Aid.) Bleeding of veins can be controlled by pressure bandages, and usually arterial bleeding will cease if you recall your pressure points and use pressure on them. Expert rescue crews may be qualified to use sterile hemostats for complete bleeding control, but few laymen are so trained.

Likewise, some rescue or first aid personnel may be trained in the use of plasma or plasma expanders. This material comes complete with sterile needles and tubing and often its early administration can prevent or reduce shock and will save life if hemorrhage is severe. Plasma expanders are reasonable in price, have long "shelf life," and are available at medical suppliers. It is good to have some crew members trained in administering plasma.

Medically speaking, an antiseptic that will kill infectious germs will also destroy tissue. No perfect antiseptic is available. Products such as plain or tinctured merthiolate are available and have value, but it is most important to use the right

"QUAD" FOR SALE

1937 AHRENS-FOX QUAD FIRE TRUCK MODEL E-R-U, 6 Cylinder "Ell Head" Motor, 750 Gal. Quadruple Rotary Type Pumping Engine, 1,500 foot Hose Bed, 150 Booster Reel and 100 Gal. Water Tank, Ladder Beds containing: 1 each 40′, 35′, 30′ Extension Ladders; 2 each 20′ Wall Ladders; 1 each 12′, 14′, 16′, 18′ Roof Ladders; 1–10′ Folding Ladder.

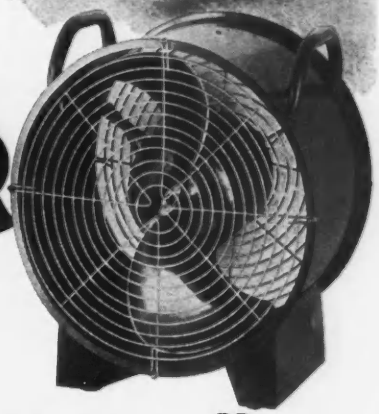
This truck has been housed permanently in heated quarters, driven and maintained by paid firemen and kept in first-class operating condition. It may be inspected at the St. Paul Boulevard Fire District firehouse, 433 Cooper Road, Rochester 17, N. Y. (Town of Irondequoit) or detailed specifications available upon request.

Direct all inquiries to either Commissioners Victor H. Pillen, 294 Seneca Park Avenue, telephone Fillmore 2-9524 or George C. Marks, 3565 St. Paul Blvd., telephone Congress 6-4051, Rochester 17, N. Y.

Get smoke out, get air in

with Multi-Purpose

SUPER VAC



CONTROLLED VENTILATION UNITS

NOT JUST A FAN ... but a powerful vacuum-action air screw ... Super Vac is amazingly simple in operation, made possible by the efficient design of the **powerful propeller** that is the heart of the unit. This patented propeller produces 100% pulling or blowing power over its entire surface.

Proved method of saving lives while also reducing smoke damage

Fire departments **nation-wide** attest to the speed with which Super Vac provides **controlled ventilation** ... so necessary in modern fire fighting. This multi-purpose unit primarily (1) gets rid of smoke and fumes through its powerful vacuum action ... or, (2) furnishes a tremendous blast of fresh air into the smoke-congested area, reducing the dangers of combustion and asphyxiation. Although one unit is often sufficient, **complete controlled ventilation** can be more speedily accomplished by using two or more units ... one or more units **pulling out the smoke and fumes** while the remaining units **blow in a steady supply of fresh air.**

- ★ **Highly portable ... operates in any position**
- ★ **Design permits vertical stacking**
- ★ **Made in 16" and 24" sizes**
- ★ **AC or DC, regular or explosion-proof motors**
- ★ **Choice of red or white baked enamel finish**
- ★ **Running board mounts available**

For complete details and specifications on

... contact your fire equipment dealer

... or write manufacturer

SUPER VACUUM MANUFACTURING CO., Inc
319½ East Seventeenth Ave., Denver 3, Colorado

"You Mean You had

INDIAN

FIRE PUMPS

Way Back

Then Grandpa?"

"Yes sirree, Buster, our department had them in 1925 and they're the dangdest best outfits made for small fires. Wouldn't be without 'em. Guess they're better than ever today. I see the boys at the station house still have a bunch of **INDIANS** on hand."

No. 90 INDIAN
Sliding Pump Type

Old-timers know and swear by **INDIAN FIRE PUMPS** — the pioneer back-pack extinguishers that do such a wonderful job with just clear water. Many, many years of research and design experience stands behind every pump.

Both types of INDIAN FIRE PUMPS are approved by UNDERWRITERS' LABORATORIES, INC.

No. 80 INDIAN
Lever Type Pump and Handle

"Nothing Like an INDIAN"

"We have 6 **INDIAN FIRE PUMPS** and have used them for 8 years. They are still just like new and we like them very much. We use them for everything including grass, house, barn, roof, rubbish and many other fires. There is nothing else like them."

Earl L. Koch, Asst. Chief
Ann Arbor, Mich. Fire Dept.

Write for New Catalog

D. B. SMITH & CO. *"For 70 Years the Leaders"*
408 MAIN ST., UTICA 2, N. Y.

PACIFIC COAST BRANCHES

Hercules Equipment & Rubber Co., Inc. San Francisco 7, Cal.
Fred E. Barnett Co., Portland, Ore.
Fred E. Barnett Co., Klamath Falls, Ore.
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L. M. Curtis & Sons, Salt Lake City, Utah

CANADIAN AGENTS

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C. E. Hickey & Sons, Ltd., Hamilton
Bison Hardware Co., Toronto

technique, sterile bandages and soaps with thorough irrigation and debridement to prevent infection.

This basic discussion of skin injuries is predicated on the assumption that all the injuries are severe enough to receive later medical attention, so that a doctor can institute measures to complete treatment.

Now, we all realize that there will be a multitude of small injuries that do not need further medical care — these should be thoroughly washed with soap and water and simple dressings applied. Tetanus injections should be left to the doctor's judgment. Nowadays, most children have had three tetanus toxoid injections; and all people who have been in the armed services likewise have had the injections. These shots confer a degree of prevention, but if the immunity has not been revived by booster shots at regular intervals, tetanus antitoxin should be given when any injury to the skin occurs.

Thermal damage to skin and mucous membranes deserves an article by itself.

CAPTAIN J. R. COOK, known to thousands of Washington State firemen for his work in firemen training, died recently. During his career he made outstanding contributions in organizing and developing the fire training program with the cooperation of the Washington State Firemen's Association, the Washington State Association of Fire Chiefs and the State Board for Vocational Education. His fire service career dated back to 1906 when he joined the Seattle Fire Department. Five years later he was made lieutenant and in 1919 advanced to captain, serving in that capacity for the next 22 years. In 1941 he was granted leave of absence to work for the Washington State Defense Council as an instructor in the rapidly expanding fire service. From that time on he devoted his career to improving the program and finally retired in September, 1956.

Using the Bean

PUMP operators for many years have been known as an ingenious lot who often get performance from their apparatus beyond those called for in the book. We have often chuckled over an old operator who used to prevent chiefs from overloading his pump and reducing the efficiency of the streams being supplied to his company by connecting hose to the unused pumper discharge gate and throwing it under the apparatus so that all outlets would appear to be utilized.

At a recent multiple alarm fire in Boston another line was needed and discharge connections on the nearest pumpers were all in use. One operator, however, knowing that his pump was connected to a high service main with a good residual pressure showing at the gage, connected the additional discharge line to an unused 2½-in. gated pump outlet. This provided ample pressure for a hand line, although supplied from the suction side of the pump.

This brings up the point that where pumpers are to be used chiefly in sections having good hydrant supplies, additional 2½-in. gated discharge connections should be provided beyond those needed to utilize the pumper's rated capacity at draft. Many pumps have taps for possible additional outlets which are not utilized unless extra outlets are specified. Where these are not available an extra gated wye with 2½-in. outlets can be provided to enable the pump to utilize more of the water supply available from a good hydrant.

PROMOTIONAL STUDY COURSE for ALL RANKS

The National Preparatory Institute offers a course of instruction in Fire Prevention, Fire Protection and Fire Fighting which will help you to improve your knowledge of fire field subjects and assist you in your studies for promotion.

PRICED FOR A FIRE FIGHTER'S BUDGET!

Engine and Ladder Company procedures — inspections, hydraulics, salvage, overhauling — these and many other subjects are covered.

FOR MASSACHUSETTS FIRE FIGHTERS:

Ask for special information on Massachusetts Civil Service Examination preparation.

For further information, at no cost to you, write today to:

National Preparatory Institute

338 SWEETSER TERR., EAST LYNN, MASS.

100-FT. LENGTH ONLY 35 POUNDS

Quaker "100" Hose weighs less, uses half the couplings

That's *twice* the length of most municipal fire-hose sections. And it weighs only 35 pounds. The exceptionally light weight and high strength of new Quaker "100" make possible a 50% saving in coupling time and bulk.

In handy 100-foot lengths, Quaker "100" goes into action faster, goes around corners more easily with half the danger of snagging couplings, folds and packs faster into less space.

The quick-drying, mildew-resistant "Dacron" double jacket absorbs 25% less water than conventional 600-lb.-test "Dacron" hose. And the burst pressure of Quaker "100" is 1200 lbs. per three-foot length.

Ask your Quaker industrial distributor to show and demonstrate to you the 1½" x 100-foot coupled lengths of Quaker "100". It's available also in 50-foot lengths. Or write *Quaker Rubber Division, H. K. Porter Company, Inc.; Philadelphia 24, Pa., or Pittsburg, California.*

H. K. PORTER COMPANY, INC.

QUAKER RUBBER DIVISION

FILMS / FOR FIRE DEPARTMENTS

NUMEROUS requests are sent to the NFPA Executive Office concerning motion picture films available for fire department training, for the training of industrial fire brigades or for general public education.

The editors of FIREMEN recently surveyed a number of motion picture film producers and distributors to obtain an up-to-date listing of useful films on fire protection and fire prevention. Accordingly, the next few issues of the magazine will include a listing of films on these subjects. The NFPA has not reviewed all of these films, and their inclusion in this listing does not imply that the NFPA endorses the recommendations, techniques, evolutions or products used or advertised in the films. Fire departments who want to show these films for training or educational purposes should write to the organizations listed and review the films before showing them to an audience. It should be appreciated that a number of these films are very popular with fire departments and civic organizations, and in some cases there may be a delay of one to three months before certain films are available. In arranging film programs, therefore, it is important to make sure that the film or a good substitute will be available on the specific date.

Previous listings published in FIREMEN magazine described films on fire department operations and fire prevention. This page lists some industrial and institutional fire protection films. Other listings will cover general public education, forest, grass and brush fire fighting, aircraft fire control and Civil Defense.

Films for Industry and Institutions

(Continued from last month)

DEMONSTRATIONS OF COAL MINE FIRES AND EXPLOSIONS. 16mm, color, sound. 19 minutes. Research on causes and prevention of explosions and fires in coal mines. *Bureau of Mines representative, 4800 Forbes St., Pittsburgh 13, Pa.* **Free.** *Precision Film Laboratories, 21 W. 46th St., New York, N. Y.* **Purchase $97.**

DON'T GAMBLE WITH FIRE. 35mm, black and white, sound slide film. 10 minutes. (Released 1954.) Film illustrates precautions that must be taken to keep supermarkets safe from fire. Several amusing sequences show very careless overseer who does all the wrong things and compares him with a safe overseer who checks everything for possible fire hazards. *Liberty Mutual Insurance Company, 175 Berkeley St., Boston 17, Mass.* **Loan; purchase.**

FIRE AND YOUR HOSPITAL. 16mm, 35mm, black and white, sound. 25 minutes. (Released 1952.) Emphasizes importance of fire emergency planning in preventing serious fires in hospitals. Produced in cooperation with American Hospital Association and National Board of Fire Underwriters. *NBFU Film Library, Bureau of Communication Research, Inc., 267 West 25th St., New York 1, N. Y.* **Free.** *ROA's Films, 1696 North Astor St., Milwaukee 2, Wis.* **Rental $7.50.** *Audio Productions, Inc., Film Center Building, 630 9th Ave., New York 36, N. Y.* **Purchase $65.**

FIRE DEFENSES READY. 16mm, color, sound. 20 minutes. (Released 1953.) The importance of weekly inspections and of maintenance sprinkler systems. Includes checking water supplies, inspecting and sealing sprinkler valves, precautions to follow when sprinklers must be shut off temporarily, use of red tags, drain tests, and procedure in case of fire. *Factory Mutual Engineering Division, 1151 Boston-Providence Turnpike, Norwood, Mass.* **Rental $1 a day, maximum 3 days; purchase $110.**

FIRE FIGHTING WITH ANSUL WHEELED DRY CHEMICAL EXTINGUISHERS. 16mm, color, sound. 17 minutes. How to fight fires with Ansul wheeled dry chemical fire extinguishers. Shows how extinguishers are constructed and recharged. *Ansul Chemical Company, Marinette, Wis.* **Free.**

FIRE IS YOUR RESPONSIBILITY. 35mm, black and white, sound slide film. 10 minutes. Shows retail store employees what can be done to prevent fires, pointing out rules covering such common hazards as smoking, improper wiring, poor housekeeping and improper trash disposal. *Merchandiser Film Productions, 192 Lexington Ave., New York 16, N. Y.* **Purchase.**

FIRE SAFETY IN HOSPITALS AND SANITARIUMS. 16mm, black and white, sound. 25 minutes. (Released 1952.) Common causes of fire are shown and discussed, safety devices and first aid fire fighting appliances demonstrated. Stresses hazards of explosions in surgery and delivery rooms. *Cinesound Company, 1037 North LaBrea Ave., Hollywood 38, Calif.* **Purchase $69.50.**

FIRE TESTS IN OUTDOOR TRANSFORMERS. 16mm, color, sound. 45 minutes. Development and use of Ansul dry chemical piped systems to combat fires in large outdoor transformers. *Pennsylvania Power & Light Company: Ansul Chemical Company, Marinette, Wis.* **Free.**

THE FIRST FIVE MINUTES. 16mm, black and white, sound. 27 minutes. Emphasizes the importance of industrial fire brigades in plant fire prevention and protection. It shows how brigade members can locate plant fire hazards, what precautions they should take to prevent fires and what to do if fire strikes. *NBFU Film Library, Bureau of Communication Research, Inc., 267 West 25th St., New York 1, N. Y.* **Free.** *Audio Productions, Inc., Film Center Building, 630 9th Ave., New York 36, N. Y.* **Purchase $77.** *ROA's Films, 1696 North Astor St., Milwaukee 2, Wis.* **Rental $7.50.**

FLAMEFOIL CANVAS PROTECTION. 16mm, color, sound. 20 minutes. Story of the search for a process to make canvas waterproof, mildew-proof, colorfast, and highly flame resistant. *Princeton Film Center, Inc., Princeton, N. J.* **Free.**

FLAMMABLE LIQUID FIRE SAFETY. 16mm, color, sound. 20 minutes. (Released 1956.) Dramatic portrayal of the power of flammable liquid fires and explosions, the ease of ignition and how to eliminate ignition sources, how to avoid accumulation of vapors, how to handle the liquid, proper extinguishing methods, and the importance of automatic sprinkler protection. *Factory Mutual Engineering Division, 1151 Boston-Providence Turnpike, Norwood Mass.* **Rental $1 a day, maximum 3 days; purchase $125.**

FOG TECHNIQUES. 16mm, color, silent. 20 minutes. A fire training film showing an actual oil well fire and its extinguishment by trained men applying the water fog technique principle. It also shows the various phases of training personnel in effective fire drills on simulated fires and how to employ this training in combating various types of oil well fires. *Texas Industrial Film Company, 2528 North Boulevard, Houston, Texas.* **Purchase $85.**

GET SAFETY IN YOUR SYSTEM. 16mm, color, sound. 10 minutes. (Released 1954.) Methods used in operations of a natural gas production field. *American Gas Association, 420 Lexington Ave., New York 17, N. Y.* **Loan; purchase $45.**

HOW FIRES START IN INDUSTRY. 16mm, color, sound. Illustrates various causes of industrial fires such as worn cords, poor connections, combustion sparks, careless use of open flames, etc. *U.S. Atomic Energy Commission, Safety Branch, Oak Ridge Operations, P.O. Box E, Oak Ridge, Tenn.* **Free.**

(Continued next month)

New Pumper for South Oldham

The South Oldham Fire Department in Crestwood, Kentucky, recently accepted this Pirsch 750 gpm pumper. Chief Milton C. Stoess, who heads the Department, and Captain Robert Catlett of the Louisville, Kentucky, Fire Department, who served as a consultant, designed the compartments and other special features of the apparatus. As shown in the bottom photo a tier for ground ladders is located under the hose bed which carries 1,400 ft. of 2½-in. hose and 1,000 ft. of 1½-in. hose. The truck also has a 500-gallon tank, two booster reels and two preconnected 1½-in. lines. Altogether it carries 144 ft. of ground ladders. (See "The Role of Quad Trucks," July 1958 FIREMEN.)

Oklahoma State University Manual for Volunteer Fire Departments

THE Department of Fire Protection Technology of Oklahoma State University has issued a new edition of the training manual "Fire Service Practices for Volunteer Fire Departments." The text, compiled by Everett Hudiburg of Oklahoma State University, has been validated by the International Fire Service Training Association, an advisory group representing 26 states and three Canadian provinces which have officially adopted these texts.

This text is a one-volume compilation of material on firemanship covered in more detail in separate volumes in the other Oklahoma "Red Books." The 114 pages include sections on: forcible entry practices, fire service rope practices, portable extinguisher practices, ladder practices, fire hose practices, salvage and overhaul practices, fire stream practices, fire apparatus practices, ventilation practices and rescue practices.

The text is well illustrated with photographs and drawings. Persons interested should write to the Department of Fire Protection Technology at Oklahoma State University, Stillwater, for prices on this and other fire service training texts.

Outstanding Performance
Superior Workmanship

THE INVINCIBLE NOZZLE

Fire Chiefs from Coast to Coast say:
"FOR THE FINEST BRASS GOODS,
Specify **McINTIRE."**

Fig. 402
Portable INVINCIBLE Ladder Pipe

600 GPM or 1100 GPM—Operated by handle from ladder or by control rope from the ground.
Rung Pulley for ground control
Pipe Clamp

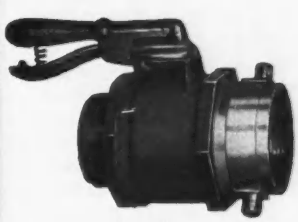

Fig. 163
Double Seat Hydrant Gate, either right hand or left hand. 2½" N.S.T. male x female.

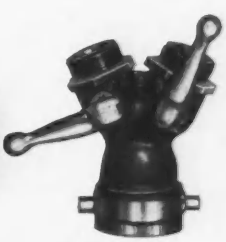

Fig. 1595S
Leader Line Gated Siamese, 2½" x 2–1½" outlets, full water way.

"ORIGINATORS and SOLE MANUFACTURERS" of THE INVINCIBLE NOZZLE

LOOK FOR US AT BOOTH NO. 83,
LOS ANGELES CONVENTION

F. N. McINTIRE BRASS WORKS
ESTABLISHED 1837
377 Putnam Ave., Cambridge 39, Mass.

New Publications for Your Fire Station Library!

Firemen's Training Centers

Suggestions on planning and building training facilities for fire fighters, together with descriptions of some of the major training schools in the United States. Prepared by a subcommittee of the NFPA Committee on Firemen's Training.

20 pages, illustrated, 8½ by 11 in.

$1.00 per copy

Specifications for Motor Fire Apparatus

Contains recommendations of the NFPA-IAFC Committee on Fire Department Equipment. Particularly useful for chiefs who are about to purchase a new pumper, tanker or aerial ladder, since it has specific recommendations on pumping capabilities, tank capacities and equipment necessary to meet the severe requirements of fireground service.

64 pages, illustrated, 4¾ by 7¼ in.

60 cents per copy

Tests of Heavy Stream Appliances

A report of tests conducted by a subcommittee of the NFPA Committee on Fire Department Equipment. It shows what flows and pressure losses resulted when modern heavy stream appliances of various sizes and capacities were tested, including portable turrets and ladder pipes.

20 pages, illustrated, 4¾ by 7¼ in.

50 cents per copy

National Fire Protection Association
60 Batterymarch Street,
Boston 10, Massachusetts

Please send me the publications checked.

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Missouri Valley Fire Chiefs' Conference

THE Missouri Valley Fire Chiefs' Association, a division of the IAFC, had its annual conference at the famed Antlers Hotel in Colorado Springs, Colorado, June 1–4. The conference, sparked by Host Chief Fred H. Lausch, was an outstanding success with a lively program. One brisk panel was on fire-police integration or combination. Chief 60 percent grade.

Edward G. Colglazier of Pueblo was assigned the affirmative side of the question and Chiefs Eugene Fields of Omaha, Nebraska, and Fred Dimond of Hutchinson, Kansas, aggressively attacked the proposal. Hubert Walker of American La-France Corporation told what was new in automotive equipment applicable to fire apparatus. Warren Y. Kimball, NFPA Fire Service manager, reported on new technical standards of concern to the chiefs.

A feature of the Missouri Valley Fire Chiefs' Conference at Colorado Springs was an evening "chuck wagon" feast on the grounds of the Antlers Hotel. Shown left to right are Mrs. Ray Tiller, Chief Russel Salak of Schuyler, Nebraska, president of the Missouri Valley Chiefs; Chief Fred Dimond of Hutchinson, Kansas, Mrs. G. R. McAlpine and Chief G. R. McAlpine of Oklahoma City, Chief William J. Cewker of Topeka, Kansas, and Chief Ray Tiller, Waterloo, Iowa, secretary-treasurer of the Association.

Florida County Buys Pumpers

THIRTEEN new 500-gpm American LaFrance pumpers were purchased for volunteer fire departments of Duval County, Florida, recently. Mounted on Ford F-600 chassis, the pumpers have 500-gallon water tanks. Total purchase cost was about $132,000.

This was reported to be the largest single delivery of fire apparatus ever made in the State of Florida. Undoubtedly, considerable cost was saved by the County's purchase of the 13 pumpers standardized for the municipal fire department service rather than having each individual fire department purchase its own pumper to individual specifications.

with the widest range of exclusive components . . .

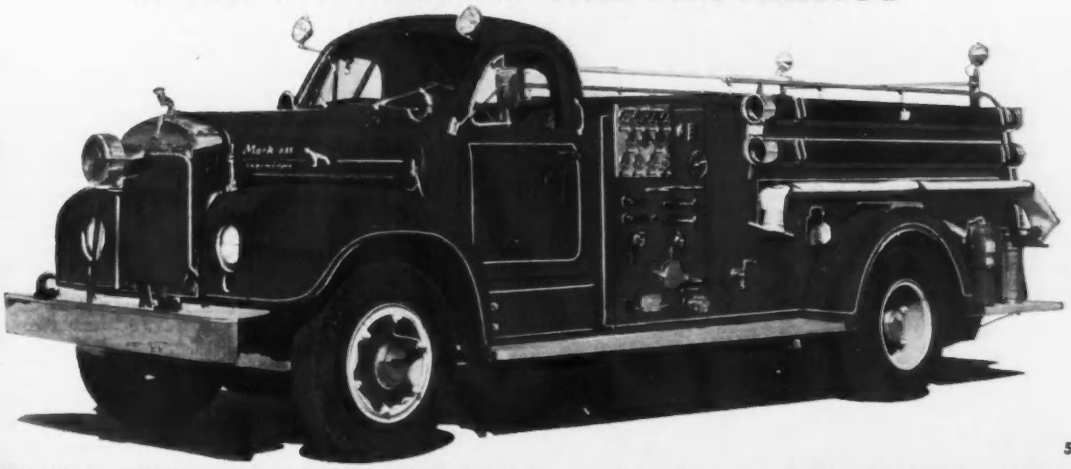
There's a Mack for every apparatus need

Mack — and you. That's the team that can design and build the finest type of fire apparatus for your needs, whether you're buying a unit or a fleet.

Prefer conventional design . . . or cab-forward models? Mack offers the best in both. Operate in hilly country . . . or over flat terrain? Mack has the right rear axle ratios for *any* situation. Operate through congested traffic? Torque converter drive and air brakes are essential and Mack has 'em. Need room for special equipment? Mack basic chassis and body design provides plenty of space for built-in equipment lockers and holders. *Whatever* your requirements, Mack meets them best.

More than that, Mack performance and dependability are in a class by themselves. Fast off the mark . . . a real pleasure to handle . . . equal to the toughest demands . . . Mack fire apparatus stays in peak condition year after year with only routine servicing. Contact your Mack representative for full details. Mack Fire Apparatus, Sidney, Ohio. In Canada: Mack Trucks of Canada, Ltd.

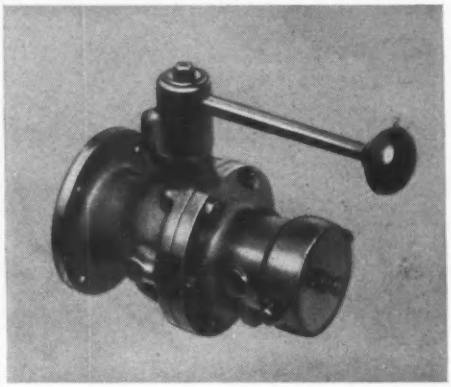
MACK *first name for* FIRE APPARATUS



5502

COMPLETE LINE OF PUMPERS—500 to 1250 GPM • SQUAD AND HOSE WAGONS • AERIALS 65' to 100' • COMBINATION LADDER TRUCKS

MODERNIZE!



Your Hale Fire Pumps, regardless of age, can be MODERNIZED immediately — with easily-installed Hale Type BL Discharge Valves. Will fit on all Hale Fire Pumps now in service. (Available in 2½" size only.)

This popular forged brass, ball-type Valve opens and closes easily at *all* pressures. Holds high pressure or vacuum. Can be "gated" and locked into position by a slight turn of handle; will not "creep."

WRITE TODAY for Revised Bulletin No. 293 on BL Valve and other New Bulletins on Hale Pumps.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

HALE FIRE PUMPS ARE BUILT IN ALL STANDARD CAPACITIES

Completely weatherproof

GLOBE SUITS

can take it . . . give back years of dependable service!

Lightweight, flexible, tough — that's the **GLOBE SUIT** all over, designed and produced by men who appreciate the fireman's problems. You just can't buy a better suit — at any price. Better see your dealer or write for full details now.

3 SUITS IN ONE!

1. Protective outer shell of tough highest quality duck
2. Waterproof interlining of 100% DuPont Neoprene
3. Your choice of either light or heavy lining for warm or cold climates

The GLOBE suit is available in black, brown, white, red, blue or olive drab.

DURABLE FIREMEN'S

GLOBE SUITS

GLOBE MANUFACTURING CO., PITTSFIELD, N. H.

Membership Report

WATCH for the September issue of FIREMEN magazine. This special issue, timed for the Conference of the International Association of Fire Chiefs, will be twice its normal size and will contain special articles by members of the NFPA staff. It will be circulated to every fire department in the United States and many in Canada. This will be a good opportunity for many fire departments who do not have NFPA membership to join the Association. Readers who want to help out in the NFPA membership campaign might tell such fire departments that membership dues in the Association are only $15 per year and that four yearly subscriptions to FIREMEN magazine are available to municipal fire departments at no extra charge.

NFPA Welcomes the following fire departments and chiefs who recently have joined the Association. To date 2,438 fire departments have membership in NFPA, with 24,476 fire fighters receiving FIREMEN magazine.

Connecticut: Chaplin Volunteer Fire Department, Inc., Chaplin; Beaver Brook Volunteer Fire Company No. 1, Danbury; Hebron Volunteer Fire Department, Hebron.

Illinois: Geneva Fire Department, Geneva; Mount Prospect Volunteer Fire Department, Mount Prospect; Pekin Fire Department, Pekin.

Maine: North Yarmouth Fire Department, Cumberland Center; Kennebunk Fire Department, Kennebunk; Warren Fire Department, Warren.

Maryland: Hagerstown Fire Department, Hagerstown.

Michigan: Walled Lake Fire Department, Walled Lake.

North Carolina: Monroe Fire Department, Monroe; Western Boulevard Rural Fire Department, Raleigh.

Yukon Territory: Watson Lake Volunteer Fire Department, Watson Lake.

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IN YOUR SPARE TIME!

Earn big commissions writing up orders from friends for guaranteed comfort Air Cushion shoes. Show special work shoes suitable for firemen plus biggest dollar-for-dollar values in men's, women's, children's shoes and boots. Your own and your family's shoes at wholesale. No experience required. Samples supplied. Write for FREE Outfit.

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Fire School Dates

Arizona: Automatic Sprinkler Course will be featured at the 6th Annual Fire School, Phoenix College, Phoenix, Arizona, October 16–18. Write to Chief Jake Siken, Phoenix Fire Department.

Florida: Florida State Fire College will be held September 8–October 3. Write to W. H. Barnett, Superintendent, Florida State Fire College, Box 785, Ocala, Florida.

Kansas: Kansas State Fire School will be held October 20–23 at the University of Kansas, Lawrence. Write to Director Clyde A. Babb, Kansas Fire School, 111 Fraser, Lawrence, Kansas.

Maryland: 25th Annual Short Course for Firemen, September 2–5. Write to Robert C. Byrus, Director, Fire Service Extension, Box 85, College Park, Md.

New Hampshire: The New Hampshire Annual Fire Training Program, sponsored by the New Hampshire Fire Chiefs' Club, will be held at The Meadowood Fire Department's Drill Yard, Fitzwilliam, New Hampshire, Saturday and Sunday, September 13–14. Breakfast and luncheon facilities will be available. Out-of-state fire departments are invited to attend this training program. Contact Chief C. E. Pitney, Chairman, Training Committee, Naval Fire Department, Portsmouth Naval Base, Portsmouth, New Hampshire.

Ohio: Classes will be held in Akron, September 3–4 and Yorkville, September 13–14. For more information write to Charles J. Getz, Coordinator of Fire Service Training, 216 East Butler Street, Loudonville, Ohio. The 5th Annual Ohio State Arson School will be held September 8–12 at the College of Law Building, Ohio State University Campus, Columbus. Write to Willis S. Peterson, Chairman, Arson Bureau, Division of Ohio State Fire Marshal, 21 West Broad Street, Columbus, Ohio.

Pennsylvania: The Pennsylvania Fire School, August 28–November 1, features six distinct courses within each training cycle. Write to Director Arthur W. Espey, State Fire School, Box 631, Lewistown.

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ASSURANCE

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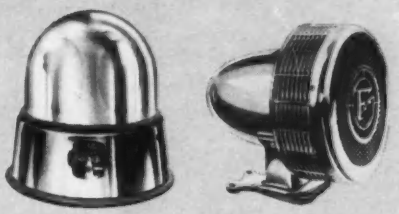

You can **have** assurance with FEDERAL.

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Everything the fireman needs for his personal equipment.

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Courses in Administration

TWO professional programs in fire administration will be starting again in September, and a number of fire officers and firemen might want to apply for training. The Queens College, New York, Fire Administration Program is operated under an advisory committee which includes Percy Bugbee, general manager of NFPA. Courses offered are arranged so that they can be taken by members of the New York City Fire Department and fire departments in surrounding states. For particulars about the coming Fall program write to Associate Professor James R. Kreuzer, Queens College, Flushing 67, New York.

Another important course is conducted at the University of Southern California in Los Angeles. Usually the courses in this program are arranged so that firemen can attend on alternate days without missing a sequence of instruction or losing course credit. For details on this training write to Stanley L. Johnson, director, Civic Center Division, School of Public Administration, University of Southern California, Los Angeles 12, California.

New Fire Administration Study

THE New York Board of Regents has granted a charter to the International Fire Administration Institute, a non-profit educational organization. The Institute, sponsored by the International Association of Fire Chiefs, was formed to engage in research and to obtain material for the preparation of courses of study in fire administration and related subjects. B. Richter Townsend, IAFC manager, will be acting president of the Institute.

According to Chief Donald S. Charles of Charlotte, North Carolina, president of the IAFC, the material and courses are to be available for use by educational institutions at the college level in the United States and foreign countries. The Institute, besides working with educational institutions in the development of such courses of study, will also give financial assistance to deserving students in the field of fire administration who otherwise would be unable to enroll.

The primary aim of the Institute is to develop firemen and fire officers professionally through college-level courses for degree credit in existing schools and colleges. The secondary aim is to publish student material, and the third aim is to offer short courses which would prepare immediately firemen and fire officers for managerial problems while at work.

Correspondence Wanted

FIRST-CLASS Fireman Jack C. Maddox, Auckland Metropolitan Fire Brigade, Parnell Fire Station, Auckland, New Zealand, would like to correspond with a permanent fire fighter not over 25 years of age, to exchange information and description of experiences.

Auckland, the largest city in New Zealand, has a population of about 330,000. There are 12 fire stations and about 30 pieces of apparatus, most of them built on Ford V-8 chassis. The fire brigade uses 2¾-in. hose with snap-on couplings. Auckland has a good water system and street fire alarm boxes.

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POSITIVE RUST PROTECTION. Eliminates RUST from booster tanks, will not corrode brass or bronze.

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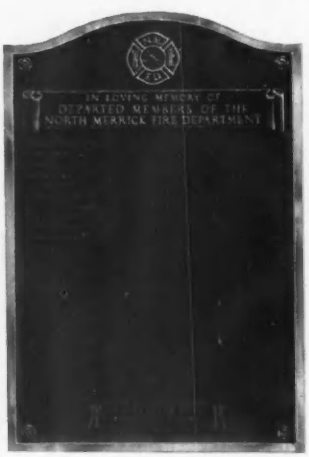

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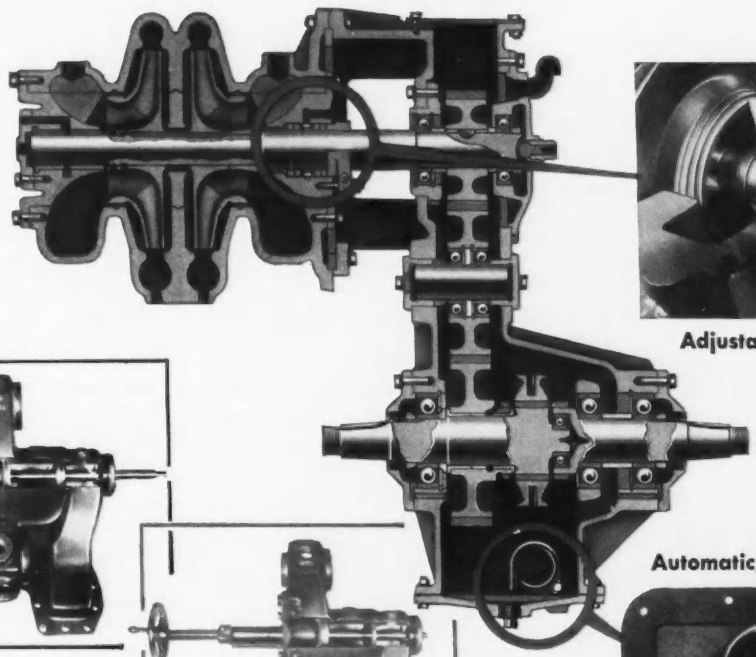
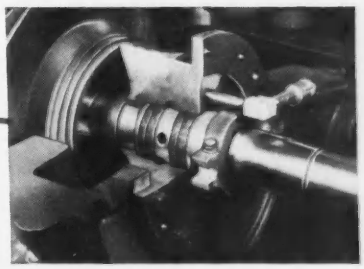
There's Extra Value* in American-LaFrance Fire Engines ...

*The *Twin Flow* Pump — for Reliable Service!





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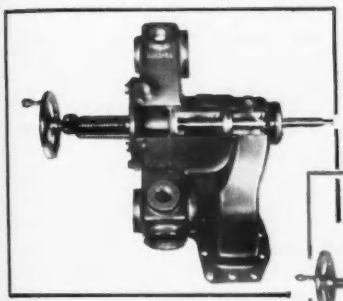
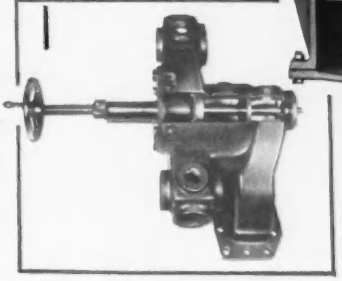
● A single adjustable packing assembly always accessible shown in above cutaway view.

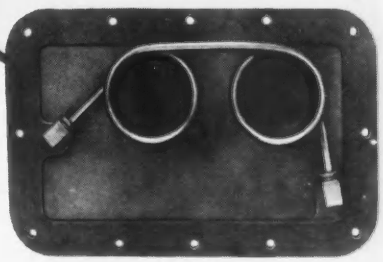




● Cutaway section shows transfer valve in parallel (capacity) operating position. Positive manual operation — no sticking — not affected by foreign material in water pumped.

● Cutaway section shows transfer valve in series (pressure) operating position. Low engine speeds at all pressures for booster and 1½ inch line operation.

Automatic, Trouble-Free Cooling



● Cooling coils in pump transmission automatically cools and maintains oil viscosity for proper lubrication of bearings and gears.—No oil breakdown on long pump operation.

The TWINFLOW pump has these Extra Value features for dependable operation and long service life.

- Higher efficiency — at draft or hydrant — more water per horsepower.
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- Impeller shaft is hardened stainless steel.
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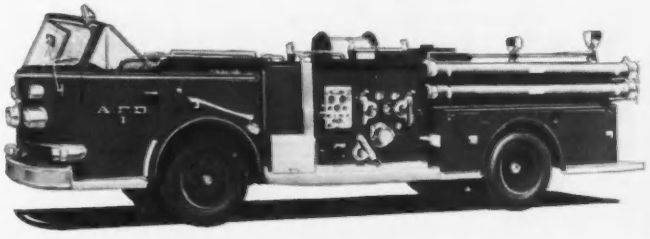
- Ball type, full 2½ inch waterway, discharge gates with locking type handle.



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ELMIRA, NEW YORK, U. S. A.

LaFrance Fire Engine—Foamite Limited

TORONTO, 9, ONTARIO, CANADA

this month's

EQUIPMENT NEWS

Motorola Inc., Communications and Industrial Electronics Division, 4501 West Augusta Boulevard, Chicago 51, Illinois, has announced a new "Big Voice" power speaker, designed to increase the effectiveness of two-way radio. Mounted on the outside of the vehicle, the radio can be used normally, receiving through the dashboard speaker; or receiver output can be switched to the speaker so that incoming messages may be heard at some distance from the vehicle; or the speaker can be used for public address purposes with the dashboard speaker remaining connected to the receiver to keep the radio in operation. Contact manufacturer for additional details.

●

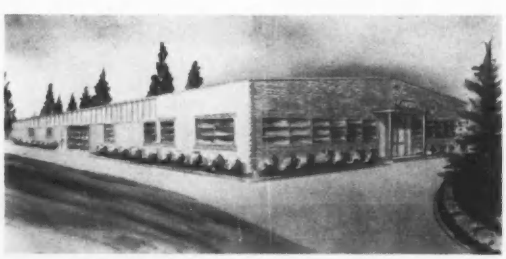
For the well-groomed man in uniform, "Jete Tie" four-in-hand design in all solid colors is ideal. Write to *A. F. Research Company*, Suite 1101, 175 Fifth Avenue, New York 10, New York. . . . *General Electric Company* enters the hand-carried two-way radio field with a new, completely transistorized portable transmitter-receiver especially designed for fire service use. . . . NFPA "Sparky" Fire Department items, including dolls, fire hats, raincoats, belts, may be purchased in lots of one each or more through *Roberts Company*, Box 86, Wayland, Massachusetts. . . . Eight new dual purpose emergency station Chevrolet wagons have been added to the Chicago Fire Department. . . . Do-it-yourself hobbyists will be interested in the Model 57 Moto-Shop power tool introduced by *Dremel Manufacturing Company*, 2420 18th Street, Racine, Wisconsin. . . . For your local industries, suggest they write *Walter Kidde & Company*, 451 Main Street, Belleville 9, New Jersey, for a free copy of the 42-page brochure "Training Your Fire Brigade to Use First Aid Extinguisher."

New Transistor-Powered Megaphone

Your voice will project over half a mile "like a harpoon" with the new "TP" (transistor-powered) Audio Hailer portable megaphone. Weighing only 5¾ pounds in two-tone green, weatherproof finish, the "TP" Hailer uses four new-type power transistors to produce an output of 7 watts, 115 decibels. Write to Audio Equipment Company, Inc., 75 Harbor Road, Port Washington, New York.

●

A new multipurpose car spotlight and 360° revolving warning light are now being sold by *Sireno Company, Inc.*, 214 William Street, New York 38, New York. Priced at $38.50 it can be operated on 6 or 12 volt batteries and mounted conveniently on vehicles of fire department members. . . . A catalog describing more than 60 different models of tables, chairs and room dividers is available free from the *Monroe Company*, 277 Church Street, Colfax, Iowa. The Company is now in its fiftieth year of operation. . . . *Protecto-seal Company*, 1920 South Western Avenue, Chicago 8, Illinois, has announced a new "thermoacting" drum cover for 55-gal. or 30-gal. steel drums; or for standard corrugated trash cans. The cover is maintained to make the unit a safe metal receptacle for oily rags and other combustible materials. Write to the manufacturer for information.



New Headquarters

Audio Equipment Company, Inc., manufacturer of electronic megaphones has moved to this new plant at 75 Harbor Road, Port Washington, Long Island, New York.

BUYING NEW EQUIPMENT?

Consider the products advertised in this issue.

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Fire Prevention Contest

ENTRY blanks for the 1958 Fire Prevention Contest are now ready and may be obtained by writing to the NFPA Public Relations Department. Judging will be based upon year-round fire prevention efforts, rather than upon Fire Prevention Week activities alone. The latter, however, will be given major consideration in the judging of entries.

As in previous years, the Contest will be open to all municipalities in the United States and Canada, to industries, to Governmental and Military, Naval and Air Force installations. Instructions on the preparation of entries are included in the entry blank. Recommended maximum size of entries is 18 inches square, with the booklet not to exceed 40 pages. Closing date for the Contest is November 30 of this year. Judging will be completed in December and the winning entries will be announced in January.

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_____	Display Card Poster, 25¢ ea.; discount for quantities	_____
_____	2. Facts About Fire — $2.00 per 100, $15.00 per 1000	_____
_____	3. Stickers — 30¢ per 100; discount for quantities	_____
_____	4. Sparky Coloring Sheet — 75¢ per 100, $6.00 per 1000	_____
_____	5. Flyer — $1.00 per 100, $7.00 per 1000	_____
_____	6. Blotter — $1.50 per 100, $12.50 per 1000	_____

Undated Materials — Illustrated

_____	7. Home Fire Safety Check List — $1.50 per 100, $10.00 per 1000	_____
_____	8. Sparky Coloring Book — 5¢ ea., $5.00 per 100, $45.00 per 1000	_____
	9. Comic Books — $5.00 per 100, $45.00 per 1000	
_____	(a) Early Man and Fire	_____
_____	(b) Man Learns More About Fire	_____
	10. Inspection Blanks — $1.00 per 100, $7.50 per 1000	
_____	(a) Sparky's Home Inspection Blank	_____
_____	(b) Merchants	_____
_____	(c) Industrial	_____
	11. Folders	
_____	(a) $2.00 per 100, $17.50 per 1000	_____
_____	(b) $2.00 per 100, $17.50 per 1000	_____
_____	(c) $2.50 per 100, $20.00 per 1000	_____
_____	(d) $5.00 per 100, $35.00 per 1000	_____
_____	(e) $2.00 per 100, $17.50 per 1000	_____
_____	(f) $2.00 per 100, $17.50 per 1000	_____

Undated Materials — Not Illustrated

_____	Sparky Comic Books; story of fire departments, 7½ x 10, full color — 5¢ each, $45.00 per 1000	_____
_____	Put That Fire Out; folder on proper use of extinguishers, 6¼ x 3¼, two colors — $2.00 per 100, $17.50 per 1000	_____
_____	13 Ways to Get Fired; employe fire safety folder, 6¼ x 3¼, two colors — $1.50 per 100, $12.50 per 1000	_____
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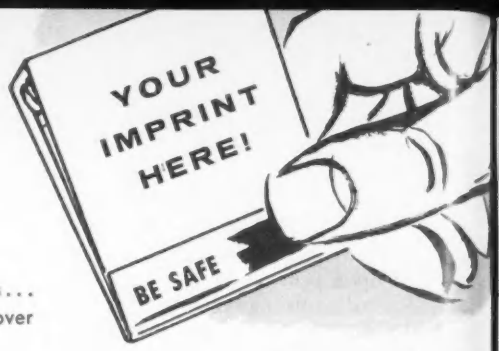
	Sparky 1-minute Fire Safety Film with new Sparky Song	
_____	16 mm print for TV, schools, etc. — $5.00 each	_____
_____	35 mm print for theatres — $9.75	_____
_____	Sparky Face Mask for Sparky costume, rubber — $1.00 each	_____
_____	Sparky Lapel Tab; 3-color, 1-inch diameter, light metal bend over tab — $2.00 per 100, $15.00 per 1000	_____
_____	Sparky membership kit; badge, card, inspector's manual — 25¢ each, 20¢ each in lots of 5 or more	_____
_____	Story of Sparky's Fire Dept.; 8-page booklet on children's fire safety program — no charge, 1 copy per order	
_____	Tested Activities for Fire Prevention Committees; 84-page booklet, illustrated — no charge, 1 copy per order	
	Total	$_____

Prices subject to 2% discount if payment accompanies order. All prices F.O.B. Boston. ORDERS SHIPPED EXPRESS COLLECT. NFPA members may receive single copy of all items gratis. Others may receive samples of all items except Display Card free upon request. Items No. 1, 2, 4, 5, 7, 8, 9, 11 (a), (b), (c), (d), (e), (f), and other folders and comic books not illustrated have space for imprints of names of campaign sponsors which may be added locally by purchasers.

NATIONAL FIRE PROTECTION ASSOCIATION

60 Batterymarch Street, Boston 10, Massachusetts

FIGHTING FIRE WITH FIRE
–REALLY WORKS–



HERE'S HOW you fight fire with fire when you use N.F.P.A. match books... Your message comes first, backed up by Sparky who uses the back cover to say..."Don't Give Fire a Place to Start".

Five different inside cover designs are mixed into each case, and each design points up a fire hazard or a place where fire could start if Sparky's advice is not heeded.

ORGANIZED

INCORPORATED

"PLAY IT SAFE!"

Smoke in Bed...
and you're D
Before You Light it...
Be Sure Your Stove is Working Properly
SPARKY is copyrighted and part of the fire safety education program conducted by the National Fire Protection Association, Boston, Massachusetts
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Keep Matches Away from Young Children!
Kill the Match– Kill the Smoke–
Before they
Where Did Your Match Go?
Check One.....
HERE
OR HERE

National Fire Prevention W
is October 5 to 11, 1958. It
30 to 35 days to process or
All orders received before
first day of Septe
can be shipped t
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but DON'T DE
Order today fo
in advance o
National Fire
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PLAY IT SAFE
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ALL-WAYS!

Each case of match books has in it suggested distribution plans to help you reach many thousands with your message.

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Gentlemen:
Please ship us..... cases of SPARKY Match Books with our imprint on the front cover, as indicated below:

SPARKY Match Program
Attention M. Netzorg
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Newtonville 60, Mass.

IMPRINTING INSTRUCTIONS

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No. Cases	No. Books	Price per Case	Total Price*
1	2,500	$25.00	$ 25.00
2	5,000	22.50	45.00
4	10,000	20.00	80.00
10	25,000	18.60	186.00
25	62,500	18.25	456.25

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state sales and use taxes if any
(*) These low prices are possible
cause of NFPA's quantity buying

(SIGNATURE).....

CHECK MUST ACCOMPANY EVERY ORDER

Please attach your letterhead. If shipment is to an address other than that shown ab
indicate on your letterhead the address to which shipment should be sent. Thank

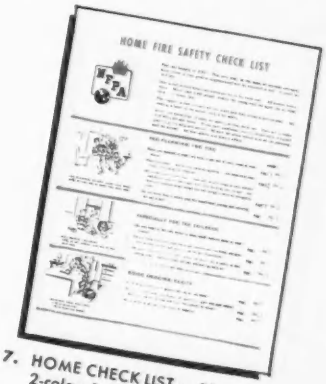
USE THIS ORDER FORM...TODAY

Get these colorful items for

Fire Prevention Week, October 5–11, 1958

1. POSTER — 11 x 17, Red and Black (also available on display card)

2. "FACTS ABOUT FIRE" — 8½ x 11 2-page color picture and fact sheet



7. HOME CHECK LIST — 8½ x 11 2-color, for self home inspections and fire safety tips

3. STICKERS — 1½ x 1⅛, 2-color, perforated, use on outgoing mail, packages

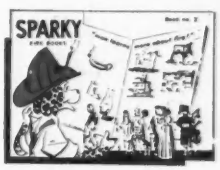
8. COLORING BOOK — 6 x 9 16 pages of outline drawings for coloring by children, with fire prevention story and new Sparky song

4. COLORING SHEET — 8½ x 11 Sparky's Fire Prevention Week picture for children

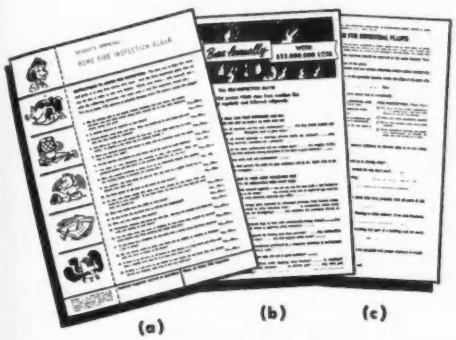
5. FLYER — 5½ x 8½ 2-color, use in mailings, employe distribution, etc.

6. BLOTTER — 3¾ x 8½ 2-color

9(a) COMIC BOOK 5 x 7, full color "Early Man and Fire"

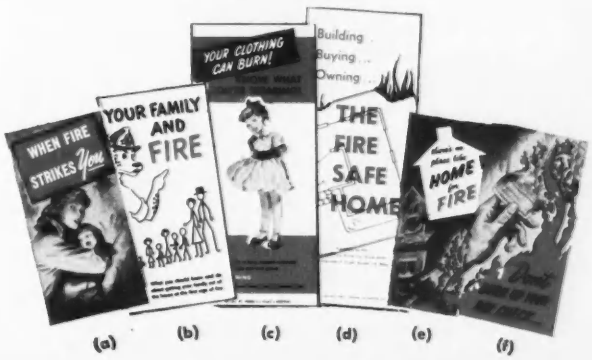


9(b) COMIC BOOK 5 x 7, full color "Man Learns More About Fire"



(a) (b) (c)

10. INSPECTION BLANKS — 8½ x 11
- (a) Sparky's home inspection blank — 2-color — for school distribution
- (b) Self-inspection blank for merchants
- (c) Self-inspection blank for industrial plants



(a) (b) (c) (d) (e) (f)

11. FOLDERS — in color, for mailings, home and employe distribution, etc.

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